EFFECTIVENESS OF SELF INSTRUCTIONAL MODUULE ON KNOWLEDGE REGARDING POLYCYSTIC OVERIAN SYNDROME AMONG ADOLESCENT GIRLS IN A SELECTED COLLEGE AT SIVAGANGAI

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A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER 2015

CERTIFICATE

This is to certified that the dissertation entitled "**EFFECTIVENESS OFSELF INSRUCTIONAL MODULE ON KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT GIRLS IN SELECTED COLLEGE AT SIVAGANGAI"**is submitted to the faculty ofNursing, **The Tamilnadu Dr. M.G.R Medical University,Chennai by Ms.V.Kavitha**in partial fulfillment of the requirement for the degree of Master of Science in Nursing. It is the bonafide work done by her and the conclusions are her own. It is further certified that this dissertation or any part thereof has not formed the basis for award of any degree, diploma or any title.

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ABSTRACT

Polycystic ovary syndrome (PCOS) is a condition which can affect a woman's menstrual cycle, fertility, hormones and aspects of her appearance. Polycystic ovaries are slightly larger than normal ovaries and have twice the number of follicles (small cysts). Polycystic ovaries are very common affecting a women.PCOS produces symptoms in approximately 5% to 10% of women of reproductive age (12–45 years old). The prevalence of PCOS depends on the choice of diagnostic criteria. About 18% of women had PCOS, and that 70% of them were previously undiagnosed. (Dalal-2011)

Statement of the problem: Effectiveness ofself instructional module on knowledge regarding polycystic ovarian syndrome among adolescent girls in selected college atsivagangai**Objectives:**To assess the pretest knowledge regarding polycystic ovarian syndrome among adolescent girls. To evaluate the effectiveness of self-instructional module on knowledge regarding polycystic ovarian syndrome among adolescent girls.To find out the association between the pretest knowledge regarding polycystic ovarian syndrome with their selected demographic variables. **Conceptualframe work:** It was based Shuffle Beam's CIPP programme evaluation model. **Design:** Evaluatory approach and Pre-experimental one group pre testpost testdesign was adopted for this study. **Setting:** The study was conducted in Vickram College of Engineeringat Sivagangai district. **Sample size:** The sample size was 100 adolescent girls.**Sampling technique:** The purposive sampling technique was used. **Method of data collection procedure:** Data were collected from the adolescent girls to assess the level of knowledge among the adolescent girls by using semi structured questionnaire before and after self instructional module. The collected data were tabulated and analyzed by descriptive and inferential statistics. **Results:**Self Instructional Module was effective for adolescent girls according to the level of knowlege before and after the manipulation. The obtained t- value (44.7) was statistically highly significant at 0.05 levels.**Conclusion:** Thisstudy shown that Self Instructional Module had a significant effect in improving knowledge of adolescent girls.

CHAPTER – I

INTRODUCTION

CHAPTER I

INTRODUCTION

"No women should lose the ability to carry her child"

- Devin smith

Human life completes its journey through various stages and one of the most vital stages is adolescence. Adolescence is the period of transition from childhood to adulthood and plays a decisive role in the formation of pro-social/antisocial adult. All of us undergo this stage which poses many challenges and is full of excitement. At the same time it demands adjustment. When we come to this world we are completely dependent upon others and learn gradually to be independent. In India, the adolescents do most of the work themselves but the final decision regarding various domains of life is taken by their parents. (Human Development Module III -2010)

Adolescence has been identified as a distinct period in human development marked by biological changes beginning at the onset of puberty. With the arrival of puberty, hormonal changes particularly, the production of male and female hormones lead to an increase in sex drive. The first development task relating to sex, adolescence must master over forming new and more mature relationship with members of opposite sex. Based on their status of mind set Three main stages of adolescence can be discerned. Early adolescence (9-13years) characterized by a spurt of growth and the development of secondary sex characteristics. Mid adolescence (14-15 Years) this stage is distinguished by the development of a separate identity from parents, of new relationship with peer groups and the opposite sex and age of experimentation. Late adolescence (16-19) at this stage adolescents have fully developed physical characteristics (similar to adults) and have formed a distinct identity well formed opinions and ideas (NCERT, 1999).

The term adolescence derived from the Latin word 'adolesco', meaning "to grow" or "to grow to maturity" term adolescence has a broader meaning; it includes mental, emotional and social maturity. **"**To build a better future for all, we must ensure that energy a girl has not only the right but also the means to get an education and realize her dreams."The term adolescence meaning "to emerge" or achieve

identity is a relatively new concept, especially in development of thinking the origin of the term is derived from the Latin word adolescent meaning “to grow to maturity” indicate the defining features of adolescence.

Adolescents form a major portion of countries population and development of the country depends upon healthy youth. Adolescence is critical growth spurt in one’s life. This is an age when adolescents are unaware and very men to know about their sexuality. Consequently get involved in different sexual activates. They may face many problems related to sexual issues and rights as they lack knowledge about physical, psychological changes accompanying their growth and development.

Young people form precious human resources in every country. World Health Organization (WHO) defines ‘adolescence’ as age spanning 10 to 19 years, “youth” as those in 15-24 years age group and these two overlapping age groups as “young people” covering the age group of 10-24 years. Adults include a broader age range and all those in 20 to 64 yr. Adolescence is further divided into early adolescence (11-14 years), middle adolescence (15-17 years), and late adolescence (18-21 years). Individuals in the age group of 20 - 24 years are also referred to as young adults. The National Youth Policy of India (2003) defines the youth population as those in the age group of 15-35 years. Population aged 10-24 years accounts for 373 million (30.9%) of the 1,210 million of India’s population with every third person belonging to this age group. Among them, 110 and 273 million live in urban and rural India, respectively. Males account for 195 million and females 178 million, respectively (Singh Sunitha-2013)

"Young people are the innovators, creators, builders and leaders of the future. But they can transform the future only if they have skills, health, decision-making, and real choices in life. Today's world record 1.8 billion young people present an enormous opportunity to transform the future," (Babatunde Osotimehim-2014)

Every third person in an Indian city today is a youth. The population in the age-group of 15-34 increased from 353 million in 2001 to 430 million in 2011. Current predictions are increase in the youth population to 464 million by 2021 and finally a decline to 458 million by 2026. By 2020, India is set to become the world’s youngest country with 64 per cent of its population. (The Hindu-2013)

There are 1.2 billion adolescents (10−19 years old) today make up 18 per cent of the world's population. More than half of all adolescents live in Asia. In absolute numbers, India is home to more adolescents around 243 million than any other country. It is followed by China, with around 200 million adolescents. (UNICEF-2012)

India is the second most populous country in the world with total population of over 1081 million. Adolescents form a large section of population, about 22.5 percent, that is, about 225 million. (Arvind Dubey-2009)

India has the world's largest youth population with 356 million people between the ages of 10-24 years. China is second with 269 million young people, followed by Indonesia (67 million), the United States (65 million), Pakistan (59 million), and Nigeria with 57 million, Brazil with 51 million, and Bangladesh with 48 million. (The United Nations Population Fund-2014)

Adolescent girls in India are a large invisible population, amounting to 113 million, or 20% of the world's adolescent girls, and are trapped in a society with socio-cultural practices and contrasting stages of development that leaves them powerless to make essential life-choices.

Worldwide, there are approximately 880 million adolescent girls and young women aged 15–24 years. Despite making up 12% of the world's population, this population is often left without a voice or control of their own bodies.(World health organization-2014)

There are 1.8 billion young people in the world and the majority live in developing countries. They are the largest generation of youth in history. Approximately half of them 900 million are adolescent girls and young women. (United Nations report-2012)

Adolescents – defined by the United Nations as those between the ages of 10 to 19 are 1.2 billion in the world today. Nearly 90 per cent live in developing countries. Every year, 1.4 million adolescents die from road traffic injuries, complications of childbirth, suicide, violence, AIDS and other causes. Cause of adolescent death varies by region, and mortality patterns are associated with sex. In Latin America, injuries (including homicide) are the leading cause of death among

adolescent boys; in Africa, complications of pregnancy and childbirth are the leading cause among adolescent girls aged 15−19.Around 11 per cent of all births worldwide, or an estimated 16 million, are to girls aged 15–19 and the youngest mothers are the most likely to experience complications and die of pregnancy related causes. (UNICEF-2012)

Adolescents (10-19 years) constitute 21.3% that is nearly 1/5th of total population of India. Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood. This transitional period is marked with the onset of menarche, an important biological milestone. (Jailkhani M.K.sheetu-2014)

Adolescents aged between 10-19 years account for more than one fifth of the world's population. In India, this age group forms 21.4 percent of the total population (National Youth policy 2003).

As a growing adolescent, problem related to Puberty is the main stress for both girls and boys. In adolescent girls, menstruation is a natural phenomena gifted by god, it starts when a girl attain puberty. Now a day's Menstrual disorders (58.06%) are found to be the commonest gynecological problem in adolescents and are not corrected due to lack of knowledge and awareness about early menstrual disorders cause. (Jamal L-2011)

Gynaecological problems of adolescents occupy a special space in the spectrum of gynaecological disorders of all ages. Menstrual abnormalities are the common problems of adolescents. Polycystic ovary syndrome (PCOS) is the commonest cause of an-ovulatory infertility. As there are no well-accepted criteria for diagnosis, the incidence of PCOS is not really known. However, it is postulated to be about 20-30% in the general population. Based on symptomatology incidence varies between 4-5% to 21% (menstrual abnormalities) and 3.5 to 9% (Hyperandrogenism). It is important to remember that, 40% of women with oligomenorrhoea, 84% of women with hirsuitism and 100% of women presenting with severe acne, have PCOS as their etiology. (The Hindu-2011)

Poly Cystic Ovarian Syndrome is a relatively common endocrine disorder in women of reproductive age group. It is found in around 70% of women who have

ovulation difficulties leading to sub-fertility. Fertility problems experienced by women with Poly Cystic Ovarian Syndrome may be related to the elevated hormone, insulin or glucose levels, all of which can interfere with implantation as well as development of the embryo. (Rizvi Javad-2015)

Enlarged polycystic ovaries had been described almost a century before, Stein and Leventhal codified the association of polycystic ovaries with hyper-androgenism, amenorrhea, and infertility in 1935 in their eponymous syndrome, now commonly known as polycystic ovary syndrome (PCOS). PCOS is a multisystem, reproductive-metabolic disorder characterized by hyperandrogenism and chronic an-ovulation. It is defined as an ovary with 12 or more follicles of 2 to 9 mm in diameter and/or ovarian volume of greater than 10 mm.using the National Institutes of Health definition, the prevalence is 4.5% to 11.2% in Alabama, 9% in Greece, and 6.5% in Spain. The prevalence of polycystic ovaries associated with metabolic abnormalities among Indian immigrants in Britain is particularly high. (Cheung P. Anthony, 2010)

Polycystic ovary syndrome (PCOS) is one of the most common female endocrine disorders. PCOS is a complex, heterogeneous disorder of uncertain etiology, but there is strong evidence that it can to a large degree and be classified as a genetic disease. PCOS produces symptoms in approximately 5% to 10% of women of reproductive age (12–45 years old). It is thought to be one of the leading causes of female infertility and the most frequent endocrine problem in women of reproductive age. Polycystic ovary syndrome (or PCOS) is common, affecting as many as 1 out of 15 women and is diagnosed in women in their 20 years or 30years (Sabarirajan-2012)

Polycystic ovary syndrome (PCOS) is a condition which can affect a woman's menstrual cycle, fertility, hormones and aspects of her appearance. Polycystic ovaries are slightly larger than normal ovaries and have twice the number of follicles (small cysts). Polycystic ovaries are very common affecting 20 in 100 (20%) of women. (Royal college guidelines committee-2010)

PCOS produces symptoms in approximately 5% to 10% of women of reproductive age (12–45 years old). The prevalence of PCOS depends on the choice of diagnostic criteria. About 18% of women had PCOS, and that 70% of them were previously undiagnosed. (Dalal-2011)

Between 1 in 10 and 1 in 20 women of childbearing age has PCOS. As many as 5 million women in the United States may be affected. It can occur in girls as young as 11 years old. (U.S. Department of health and human services-2010)

Polycystic ovarian syndrome (PCOS) is the 4thgynaecological problem of hospital admission. About 15 – 20 % of women in reproductive age group are affected by PCOS. A study conducted to understand the magnitude of polycystic ovarian syndrome(PCOS) with sample size of 257 volunteers who were examined with ultrasonography showedthat 22% were found to have polycystic ovaries.

The World Health Organization criteria for classification of an ovulation include the determination of oligomenorrhea (menstrual cycle >35 days) or amenorrhea (menstrual cycle > 6 months) in combination with concentration of prolactin, follicle stimulating hormone (FSH) and estradiol. Almost 80% of an ovulation patient have normal serum FSH and estradiol levels and demonstrate very heterogeneous symptoms ranging from an ovulation, obesity, biochemical or clinical hyperandrogenism and insulin resistance. PCOS is the most common cause of an ovulation in women with normal serum FSH and estradiol levels. In PCOS, there is a so-called “follicular arrest”, i.e., several follicles develop to a size of 5–7 mm, but not further. No single follicle reaches the pre-ovulatory size (16 mm or more). The small ovarian follicles are believed to be the result of disturbed ovarian function with failed ovulation, reflected by the infrequent or absent menstruation that is typical of the condition.(Fazia Navas-2011)

Almost 7 million women in the U.S. alone have PCOS and less than half know they have the syndrome. Public information and awareness of the symptoms and the serious nature of the disorder are crucial to identifying women in need of treatment. Every year September month is the National PCOS Awareness Month (PCOSA Today-2007)

Adolescents challenge is that PCOS is a systemic, complex disorder that needs to be actively managed by them for the rest of their life. They need to go to a deeper level and develop certain health practices that will help their body to naturally minimize the symptoms and long- term risks of polycystic ovary syndrome.

NEED FOR THE STUDY

Polycystic ovary syndrome is a heterogeneous endocrine condition that affects approximately 5% to 10% of women in the reproductive age group. Depending on the population being examined; however, prevalence rates as high as 26%have been reported. Obesity has been recognized as a major factor in the pathogenesis of PCOS. Estimates of the prevalence of obesity in women with PCOS vary from 35% to 60% (Cheung P.Anthony-2010)

Polycystic ovary syndrome (PCOS) is a common endocrine disorder affecting about 5 to 10% women of reproductive age group worldwide. It is also estimated to be the major cause of an-ovulatory infertility accounting for about 73% of cases. Variance in prevalence among population is thought to be dependent on ethnic origin, race and other environmental factors on the phenotype (Ehrmann-2005).

According to a report conducted by the International Institute of Population Sciences, infertility is growing at an alarming pace, especially in the cities. Out of around 250 million individuals estimated to be attempting parenthood at any given time, 13 to 19 million couples are likely to be infertile.This study showed that infertility has risen by 50 percent in the country. (Rao Venkat-2011)

A report indicated that up to 40% of women with polycystic ovarian syndrome have either impaired glucose tolerance or type 2 diabetes by age 40. In addition, with Polycystic ovarian syndrome, high levels of insulin stimulate the ovaries to produce large amounts of testosterone (A male hormone), which can possibly prevent ovaries from releasing an egg each month thus causing infertility. High testosterone levels can also cause excessive hair growth male pattern boldness and acne. In patients with polycystic ovarian syndrome insulin resistance encourages the storage of fat and the production of excessive amounts of testosterone. (British journal of obstetrics and gynecology-2000)

The WHO estimates that more than 180 million people worldwide have diabetes. The number is likely to go double by 2030. India and China have the highest number of diabetes in the world and many are undiagnosed Diabetic tendency affects

a woman in each stage of her life. In the adolescent stage along with obesity it leads to menstrual irregularities and infrequent egg production- the so called polycystic ovarian syndrome (PCOS). Many of these young girls show insulin resistance with high blood sugars when challenged with glucose load. These young girls when they go for infertility treatment produce less quality eggs despite high dose of hormones and medicines and have poor pregnancy rates. (The Hindu-2011)

In 2008, 40% of U.S women were diagnosed with polycystic ovarian syndrome (PCOS). In Australia PCOS appears to be the common cause of oligo-ovulatory infertility affecting 20-35% infertile women. In India, the prevalence of PCOS in adolescence is 9.13 %. India has witnessed about 30% rise in Pcos cases in the last couple of years. This draws attention to the issue of early diagnosis in adolescent girls. In Karnataka, incidence of PCOS among adolescent is estimated to be 11-26%.

PCOS women are 7.4 times more likely to experience heart disease than non-PCOS women and it is estimated that 70% of PCOS women have abnormal lipid profiles, with cholesterol being the most common. (Ebrahimi et al, 2014).

Lakshmi K.S, et.al., (2014) conducted a prospective observational study to assess the prevalence of pcos at a tertiary hospital in Kancheepuram. The study results revealed that 57 patients experienced oligomennorrhoea and remaining 10 patients had amennorrhoea, 32 patients had hirsutism, 18 patients had acne and 4patients had alopecia. The study concluded that it’s important to consider and treat pcos in order to prevent the risk for developing type-2 diabetes, dyslipidaemia, hypertension and heart diseases.

PCOS is a clinical and public health issue because it adversely affects women's health and health-related quality of life and puts a significant strain on healthcare resources. PCOS and related complications are also a tremendous economic burden, and in 2006 the total annual cost to treat women with PCOS between the ages of 14 and 44 years was more than 430 million in the USA. Treatments for hirsutism and diabetes account for 14% and 40%, respectively, of the total healthcare costs related to PCOS. (Black M.H-2011)

Musmar Samar, et.al., (2013) conducted a cross sectional study to establish the prevalence of pcos among female university students at Najah. The sample size consists of 137 female students and the data were collected by using clinical interview and assessment. The study results revealed that the estimated prevalence of pcos was 7.3% acne was the only studied risk factor among others to be statistically significant related to pcos patients (OR=8.430, P-Value=0.015). Clinical hirsutism was found in 27% participants, 70% of whom had idiopathic hirsutism.

Sivasankari K, Vanitha Jain, (2014) conducted a quasi experimental study to evaluate the effectiveness of planned teaching programme on pcos towards improving knowledge among adolescent girls and the sample size consists of 50 adolescent girls. The study results revealed that the comparison of mean value depicted that post test mean value (10.3) is greater than the pre test mean value (5.8). The paired t test value showed 16.36 which was highly significant at P< 0.0001 level. The study concluded that about 50% women population are affected with infertility because of pcos. Hence nurse researcher has a pivotal role in creating awareness among adolescent girls regarding pcos.

Polycystic ovarian syndrome (PCOS) has drawn a lot of attention in the recent years being the leading cause of infertility among women. During my clinical experience I saw more patients with infertility and also the main causes for those patients in polycystic ovarian syndrome. The incidence of Pcos is more among adolescents suffering from physical and psychological morbidity. Assessing adolescents regarding polycystic ovarian syndrome (PCOS) is desirable to understand this upcoming health issue and formulate effective programme to enhance the quality of life of the people. Improving knowledge among adolescents regarding prevention and early detection of polycystic ovarian syndrome (PCOS) can go a long way in taming the disease. From the above studies the investigator found adolescent girls have lack of knowledge regarding PCOS and its prevention at the primary level as they are neglecting taking care of the disease. Hence, the researcher is interested to educate the adolescent girls regarding polycystic ovarian syndrome (PCOS) and its prevention through self instructional module.

Statement of the problem

Effectiveness of Self Instructional Module (SIM) on knowledge regarding polycystic ovarian syndrome (PCOS) among adolescent girls in selected college at Sivagangai

Objectives

1. To assess the pretest knowledge regarding polycystic ovarian syndrome among adolescent girls.
2. To evaluate the effectiveness of self-instructional module on knowledge regarding polycystic ovarian syndrome among adolescent girls.
3. To find out the association between the pretest knowledge regarding polycystic ovarian syndrome with their selected demographic variables.

Operational definitions

Effectiveness: In this study, it refers to the extent to which the self instructional module will achieve desired effect to gaining knowledge regarding polycystic ovarian syndrome in terms of difference between pre test and post test knowledge measured by semi structured questionnaire.

Self instructionalmodule: In this study it refers self-learning information prepared for adolescent girls to improve the knowledge on poly cystic ovary syndrome which includes anatomy and physiology of ovaries, definition, incidence, etiology, pathophysiology, clinical manifestation, management, complicationsof PCOS.

Knowledge: In this study, it refers to the facts, information acquired through education by adolescent girls regarding polycystic ovarian syndrome as elicited through a self administered questionnaire.

Polycystic ovarian syndrome: Polycystic ovary syndrome (PCOS) is heterogeneous disorder characterized by excessive androgen production by the ovaries ,which interferes with the reproductive,endocrine,metabolic functions manifested byamenorrhea,hirsutism and obesity associated with enlarged polycystic ovaries.

Adolescents: Girls aged between 16-19 years studying in vickram engineering college

Hypotheses

H_1: There is a significant difference between pretest and posttest knowledge regarding polycystic ovarian syndrome among adolescent girls.

H_2: There is a significant association between pretest knowledge with their selected demographic variables.

Assumptions

The study assumes that,

- Adolescents girls were not aware about polycystic ovarian syndrome
- All polycystic ovarian syndrome girls have increased body mass index
- Education about polycystic ovarian syndrome will improve the knowledge of adolescent girls.

Limitations

The limitations of the study were

- The study focused only on adolescent girls not other age group peoples
- The study focused only on 1 year adolescent girls not other year adolescent girls
- Control group and randomization can be done to improve the effectiveness in this study.

Conceptual framework

The present study aims at evaluating the effectiveness of Self Instructional Module on knowledge regarding Polycystic Ovarian Syndrome among Adolescent girls. The framework of the present study based on **Shuffle Beam's CIPP Programme Evaluation model, 1960**. CIPP is an acronym that stands for Context, Input, Process and Product.

Context:

It provides information for the development and evaluation of mission, vision, values, goals and objectives.In this study context consist of socio demographic variables of the adolescent girls such as age, religion, mother's education, mother's occupation, economic status, area of residence, type of family, previous information, body mass index, age at menarche, duration of menstruation and interval between menstruations.

Input:

It helps to assess different teaching and learning approaches. It includes designing of intervention programme.In this study input is the Self Instructional Module prepared on the basis of learning needs.

Process:

Process evaluation assesses the implementation of plans. In this study process evaluation refers to evaluating the pre test and post test.

Product:

It is the evaluation of the outcome of the programme.In this study product is the improved response of the adolescent girls followed by the implementation of Self Instructional Module

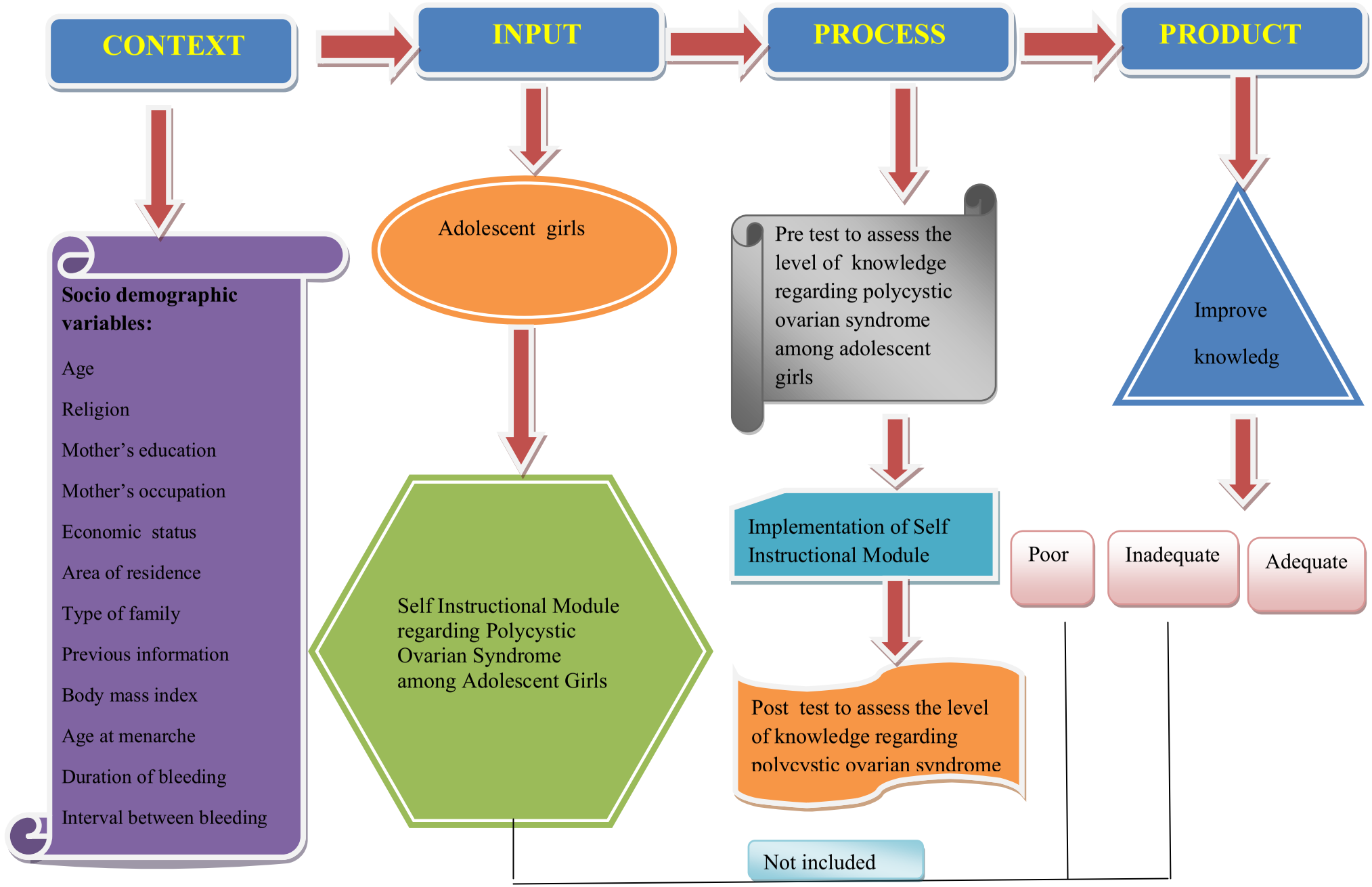

FIGURE 1: CONCEPTUAL FRAMEWORK BASED ON SHUFFLE BEAM'S CIPP PROGRAMME EVALUATION MODEL

CHAPTER – II

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

The extensive review was made to strengthen the present study in order to lay down the foundation which helps us to reveal the prevailing situation of the similar studies in different areas. The related literature of this study was presented in the following sections:

- **Literature related to prevalence of polycystic ovarian syndrome**
- **Literature related to causes/risk factors of polycystic ovarian syndrome**
- **Literature related to diagnosis of polycystic ovarian syndrome**
- **Literature related to management of polycystic ovarian syndrome**
- **Literature related to complication of polycystic ovarian syndrome**
- **Literature related to education program on knowledge of polycystic ovarian syndrome**

Literature related to prevalence of polycystic ovarian syndrome

Maha. A et.al., (2013) conducted a retrospective cross sectional study to determine the prevalence of Pcos among omani women of reproductive age groups from 2006-2010. The study results revealed that the prevalence of Pcos per 1000 patients in 2010 was 2.8%. The highest prevalence was in the muscat region (42%) followed by Dhakliya and Al batinah regions.

Moran.et.al., (2010) conducted a prospective cross sectional study to determine the prevalence of Pcos in a sample of Mexican women aged 20-45 years. The study results revealed that 9 of the 150 women were diagnosed with Pcos. All Pcos patients presented oligo ovulation, 9 had hirsutism and 7 of them had acne. 8 of the 10 Pcos patients had morphologic characteristics of Pcos in Mexican women is approximately 6.0%, similar to other populations, but lower than 12.8% repeated in Mexican-American women.

Loft A et.al., (2014) conducted a prospective cross sectional study to assess the prevalence of Pcos in a normal population. The study results revealed that the

Pcos prevalence significantly decreased with age from 33.3% in women < 30 years to 14.7% in women aged 30-34 years and 10.2% in women > 30 years (P<0.001). The study concluded that there is an need for further studies to validate the results with other biochemical analyses.

GowriVaidyanathan et.al., (2013) conducted a retrospective cross sectional study to determine the hospital based prevalence of Pcos among Omani women of reproductive age group of 12-45 years who attended the gynaecology clinic in a tertiary hospital in Oman. the study results revealed that the overall prevalence of Pcos per 1000 patients in 2010 was 2.8%. The study concluded that the prevalence of diagnosed Pcos cases among women in Oman is similar to that of other countries.

Norman J Robert et.al (2009) conducted a retrospective cohort study to estimate the prevalence of Pcos in the community under the national institute of health criteria. The sample size consists of 728 women born during 1973-1975 (age = 27-34 years). The study results revealed that the prevalence of Pcos was 8.7 ± 2.0%. The study concluded that more attention should be given to the issues of women with Pcos in the community.

Farhad et.al (2011) conducted a descriptive study to estimate the prevalence of Pcos in a community based sample in Iran. The sample size consists of 1126 women were selected by using multistage probability cluster sampling method. The data were collected by using the ultrasonographic parameters, hormonal profiles and clinical histories. The study results revealed that the estimated prevalence of idiopathic hirsutism was 10.9%; 8.3% of women had only oligo/an ovulation and 8.0% had only polycystic ovaries.

Li Lin et.al., (2008) conducted an observational study to determine the prevalence of Pcos in selected women from Southern China. The study results revealed that the 2.2% (20/915) prevalence of Pcos. Women with Pcos had higher levels of LH and FSH. The study concluded that some clinical and biochemical characteristics were apparent in Pcos patients in our population.

Cunningham Joan et.al., (2012) conducted a cross sectional survey to document the prevalence of Pcos and its associated characteristics in a sample of

Urban indigenous women living in Darwin, Australia and Northern territory. The study results revealed that among 248 women, the proportion who had Pcos was 15.3% (95% CI: 10.8%-19.8%). The study concluded that the significant relationship with obesity gives a strong rationale for screening for Pcos during routine care of indigenous women who are obese and of reproductive age.

Hart R et.al., (2011) conducted a prospective cohort study to determine the prevalence of metabolic syndrome in adolescents with Pcos. The study results revealed that the prevalence of metabolic syndrome recorded was 11.8% in girls with Pcos and 6.6% (Rotterdam) (Non Pcos 0.6% and 0.7% respectively). Menstrual irregularity and polycystic ovary morphology were not associated with insulin resistance (56.3% vs 52.9% and 60.0% vs 34.4% respectively).The study concluded that the prevalence of metabolic syndrome in girls with Pcos, one third have features putting them at high risk for development of metabolic syndrome.

Smith Ninget.al., (2013) conducted a cross sectional study to investigate the prevalence of polycystic ovary syndrome (PCOS) in adolescents and its association with obesity. The study results revealed that the prevalence of a confirmed diagnosis of Pcos was 0.56%, which increased to 1.14% when undiagnosed cases with documented symptoms qualifying for Pcos according to NIH criteria were included. Compared with normal/underweight girls, the odds ratios (OR and 95% confidence interval [CI]) for confirmed Pcos diagnosis were 3.85 (3.04-4.88), 10.25 (8.16-12.84), and 23.10 (18.66-28.61) for overweight, moderately obese, and extremely obese adolescents, respectively, after adjusting for potential confounders. The study concluded that the prevalence of Pcos and overestimate the magnitude of the association between obesity and Pcos.

Musmar Samar et.al., (2013) conducted a cross sectional study to establish prevalence of Pcos among female university students at An-Najah National University-Palestine and to explore its possible risk factors. The sample size consists of 137 female students aged between 18-24 years by using convenient sapling technique. The data were collected by interview and clinical assessment method. The study results revealed that the estimated prevalence of Pcos was 7.3% , acne was the only studied risk factor among others to be statistically significantly related to Pcos patients (OR = 8.430, P-value = 0.015). Clinical Hirsutism was found in 27% of

participants, 70% of whom had idiopathic hirsutism. The study concluded that the Prevalence of Pcos in Palestine seems to be relatively high but similar to other Mediterranean statistics.

Literature related to causes/risk factors of polycystic ovarian syndrome

Bronstein Jason et.al., (2011) conducted a retrospective study to compare the risk factors involved in causing Pcos in adolescents and pre adolescent girls. The study sample size consists of 58 preadolescent and adolescent girls. The data were collected by using family history and biochemical analyses. The study results revealed that there were 26% (15/58) preadolescent girls (9-12years) vs. 74% (43/58) adolescents (13-18 years). The study concluded that there is a need for awareness among young girls regarding Pcos.

Legro R S et.al (2011) conducted a cross sectional case control study to determine the factors associated with an increased risk of the metabolic syndrome in Pcos. The study results revealed that 37% of adolescent girls with Pcos had metabolic syndrome compared with 5% of national health and nutrition examination survey girls ($P<0.0001$). None of the girls of normal BMI had metabolic syndrome, whereas 11% of overweight and 63% of obese girls with Pcos had metabolic syndrome compare with o and 32% of national health and nutrition examination survey girls respectively. The study concluded that adolescent girls with Pcos have a higher prevalence of metabolic syndrome than the general adolescent population

Literature related to diagnosis of polycystic ovarian syndrome

Mujeeb Saba et.al., (2008) conducted a cross sectional study to determine the diagnostic threshold of ultrasound in detecting Pcos and to correlate it with clinical, hormonal and laparoscopic findings of polycystic ovarian disease. The study results revealed that the sensitivity of ultrasound in diagnosing Pcos is 87.7% and specificity is 99%. The sensitivity and specificity of S. LH, S. Prolactinand S. Insulin are 38% and 100%, 13% and 90%, and 68% and 50% respectively.

Sahmay S et.al., (2013) conducted a cross sectional study to determine the possible role of anti-Mullerian hormone (AMH) in the diagnosis of polycystic ovary syndrome with a larger population of women and to evaluate its role as a new

diagnostic marker. The study concluded that Serum Anti Mullerian hormone measurement is very valuable in the diagnosis of PCOS women. The serum Anti Mullerian hormone level is a new and useful diagnostic tool in PCOS diagnosis.

Ali Khan Naveedet.al., (2014) conducted a case control study toexamine the association of adiponectin levels in young and lean women with PCOS. The study concluded that the adiponectin level may serve as a potential independent biomarker for diagnosis of Pcos in young and lean women with fewer symptoms, or women with a family history of Pcos.

Swalem A M et.al., (2012) conducted a prospective study to assess the frequency of clinical and biochemical features of PCOS. The study concluded that the chronic an-ovulation and hirsutism are the dominant features of PCOS in our patient population. More than half were obese, and the prevalence of diabetes, hypertension and thyroid disease in our patients seemed to be underestimated in comparison to other parts of the world.

Mariana, NechitaAurel., (2013) conducted a descriptive study to compare the ovary morphologic data in different types of ultrasound imaging in adolescents.The study concluded that ultrasound imaging remains the main method of assessment for genital organs at young ages.

Literature related to treatment of polycystic ovarian syndrome

T.I siebert et.al.,(2011) conducted meta-analysis and systematic review to determine that metformin(M) is highly effective for ovulation induction in theclomiphene citrate (CC)-resistant patient. 1.6, p =0.05) the study revealed that the combination (CC+M) is superior to CC alone asa primary method for ovulation induction and to achievepregnancy in PCOS.

Tahira Dar et .al., (2011) conducted an observational study to assess the effectiveness and benefits of metformin in patients with poly cystic ovarian syndrome treatment. The study was concluded that there is lack of large scale clinical trials of metformin therapy in PCOS and of studies comparingdifferent treatments. There is still need of study on large population for more accurate and preciseresults, as smaller trials tend to be less reliable and hence may produce conflicting results.

Amrudabennel,sudhakerure (2011) conducted a case control study to know the effect of PCOS on glucose metabolism in younger age group.PCOS patients compared to normal menstruating women .the study was concluded that PCOS patients are more prone for impaired glucose tolerance and type 2 Diabetes Mellitus. So they should screen for impaired glucose tolerance and type 2 Diabetes Mellitus to prevent complications.

Daniela romualdi et.al.,(2011) conducted a prospective longitudinal study to detailed examination of glucose and insulin metabolism in pregnant women with PCOS undergoing metformin therapy...the study was concluded that Women with PCOS who enter pregnancy in a condition of severe hyperinsulinemia have development of GD earlier, independently of metformin treatment. The physiologic deterioration of insulin sensitivity is not affected by the drug and does not predict the timing and severity of the glycemic imbalance. Despite the high incidence of GD observed, the drug itself or the intensive monitoring probably accounted for the good neonatal outcome.

Dr. fauziahaqnawaz,Dr.javedrizvi(2015) conducted a Nested case Control study To compare the effectiveness of Metformin along with Clomiphene citrate as a primary and adjunct therapy in Clomiphece resistant infertile women with PCOS at Infertility clinic of Aga Khan University Hospital, Karachi, Pakistan. The study was concluded that Metforminimproves pregnancy and live birth rate when added with Clomiphene citrate and Clomiphene resistant women with PCOS even with normal insulin status.

Ashraf jamal et.al.,(2012) conducted a comparative study To determine and compare utero-placental circulation and obstetrics complications in pregnant women with PCOS treated with metformin, aspirin and control group. The study was concluded that Metformin and low dose aspirin reduced uterine artery impedance but there was not associated with reduced obstetrics complication in women with PCOS.

Malkawi HY et.al.,(2014) conducted a prospective study to evaluate the efficacy of metformin compared with ovarian drilling in the treatment of clomiphene citrate (CC) resistant women with polycystic ovary syndrome. (64.1% vs 59.8%). The study was concluded that CC-resistant patients with polycystic ovary syndrome can be treated effectively either by metformin or by laparoscopic ovarian drilling.

Menstrual cycle pattern and the rates of ovulation and pregnancy are improved significantly, due most probably to the significant decrease in the levels of androgens and luteinizing hormone.

Rouziaa,Ardawi MS (2006) conducted a randomized controlled trial study to compare the efficacy and safety of clomiphene citrate and low-dose recombinant FSH as first line pharmacological therapy for an-ovulatory infertility associated with polycystic ovary syndrome (PCOS).. The study was concluded that that low-dose recombinant FSH may be an effective alternative to clomiphene citrate in first-line treatment for an-ovulatory PCOS patients. Thus, further studies, possibly multi-centre, in order to avoid problems with patient recruitment, are warranted to confirm these results.

Dubourdieu S, et.al.,(2013) conducted a prospective, randomized study To compare the efficacy of pulsatile GnRH therapy versus combined gonadotropins for ovulation induction in women with both hypothalamic amenorrhoea and polycystic ovarian syndrome (HA/PCOS) according to their current hypothalamic status in the Nantes University Hospital, France . The study was concluded that HA/PCOS is a specific subgroup of infertile women. Pulsatile GnRH therapy is an effective and safe method of ovulation induction that can be used successfully in these patients.

Kamel H (2013) conducted a Prospective randomized controlled study to assess the role of a phyto-oestrogen, in ovulation induction in women with polycystic ovarian syndrome (PCOS).l in Minia University Hospital, Minia, Egypt. The study was concluded that Phyto-oestrogen can be used as an alternative to clomiphene citrate for ovulation induction in women with polycystic ovarian syndrome

Literature related to complications of polycystic ovarian syndrome

Jun z qin et.al.,(2013) conducted a meta-analysis to determine obstetric complications in women with polycystic ovary syndrome..The study concluded that women with pcos have increased risk of adverse pregnancy and neonatal complications. It is necessary to establish guidelines for supervision during pregnancy and parturition to prevent these complications.

Resheftal et.al.,(2013) conducted a prospective cohort study to determine the increased angiogenesis and hypervascularity in pcos women. This

studyconcluded that of an alteration in the Ang-1/Ang-2 system in PCOS women. The biological role of Ang-2 in promoting capillary leakage, the increased Ang-2 FF level in PCOS, and its correlation with number of oocytes suggest that Ang-2 may play an important role in the increased risk of ovarian hyper stimulation in PCOS.

Dokras A et.al.,(2007) conducted a meta-analysis and systematic review to examine prevalence of anxiety symptoms in women with pcos and control women. pcoscompared with control subjects. The study concluded that increased odds of anxiety symptoms in women with pcos, undergoing the importance of screening all women with pcos for anxiety symptoms. Follow up evaluation and treatments are essential.

Teresa sir petermann et.al.,(2005) conducted a compared study to establish the birth weight of newborn of mothers with pcos and to compare it with a control group of mewborns of normal women matched by age and weight at the beginning of pregnancy. The study was concluded that PCOS mothers showed a significantly higher prevalence of SGA newborns which cannot be completely attributed to pregnancy complications, and seems to be more related to the PCOS condition of the mother.

Rupalsharoff B.S et.al.,(2007)conducted a retrospective study to determine the risk of metabolic complications, primarily metabolic syndrome in all polycystic ovarian syndrome phenotypes compared with control subjects. 8.2(2.3-29.3).there was no significant difference in the prevalence of insulin resistance and glucose intolerance was not significantly different between pcos phenotypes. The study was concluded that the risk of metabolic syndrome may vary among the four phenotypes of pcos based on the criteria.

Yildir IC; Kutluturk F et.al.,(2013) conducted a prospective study to determine the insulin resistance in women with PCOS patients who have normal oral glucose tolerance test (OGTT) and to evaluate cardiovascular risk by measuring C-reactive protein (CRP) and carotid intimae-media thickness (CIMT) . There was a no significant difference between patients and controls in BMI, and waist circumference, lipid, TSH, LH, FSH, estradiol, and prolactin levels. Serum insulin, testosterone, DHEAS, ferritin levels and HOMA values were significantly higher in patient group.

We found that 64.7% (n = 22/34) patients with PCOS had insulin resistance. Both of CIMT and CRP levels were significantly higher in the PCOS patients had BMI over 25 kg/m². CRP levels was significantly higher in the PCOS patients had waist circumference greater than 80 cm. the study concluded that insulin resistance in the women with PCOS even if OGTT was normal. Our data were similar to literature; the women with PCOS have increased risk of premature atherosclerosis and metabolic syndrome.

Literature related to knowledge of polycystic ovarian syndrome

Katie callwellet.all.,(2010) conducted a clinical research study to assessed changes inKnowledge, feelings, and daily health practices related to PCOS. The study was concluded thatWomen with PCOS felt that they had more knowledgeand motivation to implement preventive health strategies afterparticipating in a clinical research study. Education about howPCOS affects their immediate and long-term health enabledwomen with PCOS to feel physical and psychological benefits andto engage more with their health care providers.

Sowmiya et.al.,(2013) conducted a experimental study to assess the effectiveness of structured teaching programme on knowledge of polycystic ovarian syndromeamong adolescent girls. A significant difference between pre test and post test knowledge was found (t 2.0 79=p<0.05).The study findings showed that the structured teaching programme was effective in improving knowledge of adolescent girlsregarding polycystic ovarian syndrome. There was no significant association between the level of knowledge and demographic variablesexcept the group in which they study (Science, Arts, Commerce).

Leicester (2011) conducted a interventional study aims to develop and test a programme that can be run in groups (structured education), to support women with PCOS make the lifestyle changes needed to improve their PCOS and prevent future associated health problems. Structured education programmes are suitable for use within the NHS and are already recommended for individuals with T2DM, but have not been tested as a method of treatment for PCOS which is a high risk condition for T2DM.. The study was concluded that the investigators believe that the group given the structured education will show some evidence of improvement in their glucose metabolism, and consequently decreased chance of developing diabetes.

CHAPTER – III

RESEARCH METHODOLOGY

CHAPTER – III

RESEARCH METHODLOGY

This chapter deals with the methods adopted by the research to find out the effectiveness of self instructional module on knowledge regarding polycystic ovarian syndrome. It deals research approach, research design, the setting, population, and sample size, sampling technique, development cum description of tool, validity, reliability, pilot study and procedure for data collection for data analysis

Research approach

Evaluatory approach was used in this story. It aimed to evaluate the effectiveness of self instructional module on knowledge regarding polycystic ovarian syndrome.

Research design

Pre experimental one group pre testpost test design was adopted for this study

GROUP	PRETEST	EXPERIMENT	POST TEST
E	O_1	X	O_2

FIG-2: DIAGRAMMATIC REPRESENTATION OF RESEARCH DESIGN

E - Experimental group

0_1 – Pretest assessment of knowledge regarding polycystic ovarian syndrome

X - Self instructional module

0_2- Posttest assessment of knowledge regarding polycystic ovarian syndrome

Variables under the study

Independent variables: Self instructional module rendered by the research to the adolescent girls on polycystic ovarian syndrome was independent variable in this study

Dependent variables: Knowledge of adolescent girls regarding polycystic ovarian syndrome was dependent variable in this study.

Setting of the study

The study was conducted in Vickram Engineering college at Sivagangai whichis about5 kms away from our nursing institute.

Study population

Target population:Adolescent girls .

Accessible population: Adolescent girls studying in Vickram College of Engineering at Sivagangai district

Sample

Adolescent girls who fulfill the inclusion criteria will be consider as a sample.

Sample size

Sample size consists of 100 adolescent girls studying at selected college in Sivagangai.

Sample technique

Non probability – purposive sampling technique was used for this study.

Criteria for sample selection

The samples are selected based on the following inclusion and exclusion criteria.

Inclusion criteria: The study includes,

1. Adolescent girls who were studying 1 year B.E (computer engineering) in Vickram College of engineering.
2. Willing to participate
3. Available at data collection

Exclusion criteria

1. Adolescent girls who were already diagnosed and in treatment of polycystic ovarian syndrome
2. Adolescent girls who were sick at data collection .

Research tool and technique

The instruments used in this research study consist of two section.

Section A

It comprised of demographic variables such as age, religion, mother's occupation, and economic status, type of family, area of residence, previous information, measurements, and details of menstruation.

Section B

It comprised of semi structured questionnaire to assess the adolescent girls knowledge regarding polycystic ovarian syndrome. It was edited as per the blueprint and different content area. It consist of 30 multiple choices question. Fact ideal had four choices out of which one were correct answers and the remaining there where wrong answers. A score value of 'one' was allotted to each correct response. 'zero' was rewarded for the wrong response. Thus there were so maximum obtainable scores. The level of knowledge was graded based on percentage of scores obtained

Level of knowledge

Above 75 (adequate)

50 – 75 (moderate)

Below 50 (inadequate)

Section c

It comprised self instructional module on knowledge regarding polycystic ovarian syndrome among adolescent girls. The content on polycystic ovarian syndrome was selected through literature search and in consultation with experts. The content of the self instructional modules was organized well by the following headings

- Anatomy of ovaries
- Function of ovaries
- Normal levels of hormone
- Definition of polycystic ovarian syndrome
- Incidence of polycystic ovarian syndrome
- Risk factors of polycystic ovarian syndrome
- Etiology of polycystic ovarian syndrome
- Pathophysiology of polycystic ovarian syndrome
- Clinical manifestation of polycystic ovarian syndrome
- Diagnostic evaluation of polycystic ovarian syndrome
- Life style modification of polycystic ovarian syndrome
- Medical management of polycystic ovarian syndrome
- Surgical management of polycystic ovarian syndrome
- Complications of polycystic ovarian syndrome

Testing the tool:

Content validity

Assessment tool was evaluated by experts from the field of nursing and medicine for content validity. Suggestions were considered and appropriate changes were done and to made the tool to be valid.

Pilot study

Pilot study was conducted in Vickram Engineering college for the period of one week on 10 adolescent girls in order to test the feasibility, relevance and practicability of the tool. Result shows that the tool was feasible to carry out the main study.

Reliability

The data were collected from 10 samples to find out the reliability. The split half method was used to establish the reliability of the tool. This was done by splitting the items into odd and even items. The reliability coefficient of the whole test then estimated and the value obtained was (r=0.94) which indicates that tool is reliable.

Data collection procedure

The investigator met the head of the institution in order to establish support and co-operation to conduct the study successfully. The formal prior permission was obtained from the principal, Vickram College of engineering, sivgangai for main study. The investigator introduced her to the adolescent girls and established rapport with them. The study was conducted for period of two weeks. The investigator selected the sample that fulfilled the inclusion criteria. The informed consent was obtained from Vickram Engineering College. Appropriate orientation had given to the subjects about the aim of the study, nature of questionnaire and adequate care was taken for protecting the subjects from potential risk including maintain confidentiality, security and identity. The demographic variables collected from the subjects. The pre test was done to assess the adolescent girl's knowledge through semi structured questionnaire. Self instructional module was administered. The post test of study was carried out one week later, using same tool as the pre test. Collected data was then tabulated and analyzed.

Plan for data analysis

Data analysis was done according to the objectives of the study. Both descriptive and inferential statistics were used.

1. Analysis of the demographic data was done by frequency, mean, percentage.
2. Paired't' test was used to determine the difference between the pre test and post test score interms of effectiveness of self instructional module.
3. Chi square test was used to determine the association between the selected demographic variables.

Protection of human rights

Research proposal was approved by the dissertation committee, RASS academy college of Nursing, Poovanthi. Prior to the study oral consent of each teachers was obtained before starting the data collection. Assurance was given to the teachers that confidentiality would be maintained.

CHAPTER- IV

DATA ANALYSIS

CHAPTER-IV

ANALYSIS AND INTERPRETATION OF DATA

This chapter deals with the analysis and interpretation of the data collected from adolescent girls who have received the self instructional module. The collected data were tabulated, analyzed and presented. It consists of the following sections:

Section I : Description of adolescent girls according to their selected demographic variables

Section II : Description of adolescent girls according to their selected obstetric variables

Section III : Description ofadolescent girls according to their pretest and posttest knowledge level ofregarding polycystic ovarian syndrome.

Section IV : Comparison of pretest and posttest knowledge level of adolescent girls onpolycystic ovarian syndrome.

Section V : Association of pretest knowledge level of adolescent girls with their selected demographic variables.

SECTION – I

Description of adolescents according to their selected demographic variables

Table 2-Distribution of adolescent's girls according to their selected demographic variables

S.NO	Demographic variables	Adolescent girls	
		Frequency	Percentage (%)
1.	**Age(in years)**		
	a)16 – 17	65	65
	b)18 – 19	35	35
2.	**Religion**		
	a)Hindu	86	86
	b)Christian	14	14
	c)Muslim	0	0
3.	**Mother's Educational Status**		
	a)Illiterate	25	25
	b)High school	27	27
	c)Higher secondary	35	35
	d)Under graduate	13	13
	e)Post graduate	0	0

4.	**Mother's occupation**	72	72
	a)Housewife	28	28
	b)Private employee	0	0
	c)Gout employee		
5.	**Type of Family**	85	85
	a)Nuclear	15	15
	b)Joint		
6.	**Economic status**	0	0
	a)Lower class	100	100
	b)Middle class	0	0
	c)Upper class		
7.	**Area of Residence**	26	26
	a)Rural	74	74
	b)Urban		
8.	**Source of Information**	0	0
	a)Through Family members	4	4
	b)Friends	4	4
	c)Mass media	92	92
	d)No previous information		

Table-2 summarizes that demographic characteristics of adolescents among 100, with regards to age (65%) were 16 – 17 years, (35%) were 18 – 19 years, with regards to religion, majority of the samples (86%) belongs to Hindu and (14%) were Christians and no Muslims. Regarding mother's educational status, (25%) were illiterate, (27%) had high school,(35%) were higher secondary school,(13%) were under graduate and no post graduate. Regarding to mother's occupation majority of the samples (72%) was Housewife, (28%) were private employee and no Government employee. with regards to type of family (85%) were Nuclear and (15%) were Joint family. Distribution of subjects with reference to Economic status (100%) was middle class and no lower class and upper class. With regards to Area of Residence (26%) were rural and (74%) were Urban. With regards to Source of information majority of the samples (92%) belongs to No previous information, and (4%) were from mass media, (4%) from friends.

Table-3 Description of adolescents according to their selected obstetric variables

S.NO	OBSTETRIC VARIABLES	ADOLESCENT GIRLS	
		Frequency	Percentage (%)
1.	**Body mass Index**		
	a) Low weight	27	27
	b) Normal	66	66
	c) Over weight	7	7
	d) Obesity	0	0
2.	**Age at menarche (yrs)**		
	a) Below 13	15	15
	b) 13 – 15	85	85
	c) Above 15	0	0
3.	**Duration of menstruation**		
	a) Below 3 days	0	0
	b) 3 – 5 days	82	82
	c) Above 5 days	18	18
4.	**Interval between menstrual cycle**		
	a) Below 1 month	7	7
	b) 1 – 2 month	93	93
	c) Above 2 month	0	0
5.	**Bleeding**		
	a) Normal	67	67
	b) No bleeding	0	0
	c) Mild bleeding	26	26
	d) Severe bleeding	7	7

Table -3 predicts that,

Regarding Body mass index majority of samples (66%) belongs to overweight, (27%) were low weight, (7%) belongs to overweight and no one belongs to obesity

Regarding Age at menarche (85%) belongs to 13 – 15 yrs, (5%) belongs to below 13 years and no one in above 15 years

Regarding duration of menstruation majority of the sample (82%) belongs to 3 – 5 days. Regarding interval between menstrual cycles (93%) belongs to 1 – 2 months, (7%) were below 1 month and no one belongs to above 2 months.

Regarding bleeding (67%) belongs to normal bleeding, (26%) mild bleeding, (7%) belongs to severe bleeding and no one belongs to no bleeding.

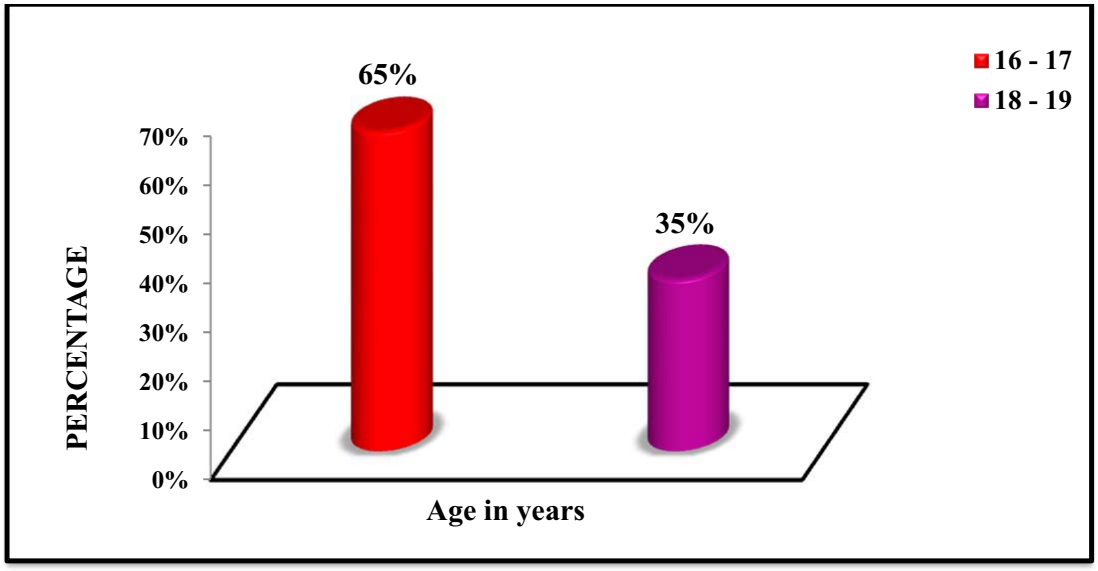

Figure 2: Distribution of adolescent girls according to their age in years

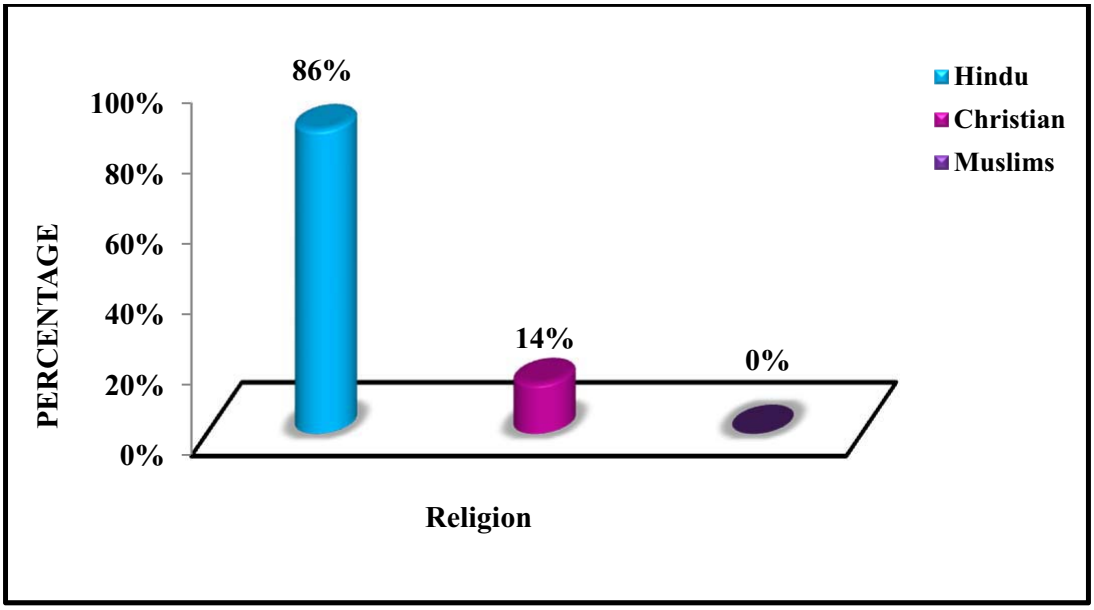

Figure 3: Distribution of adolescent girls according to their religion

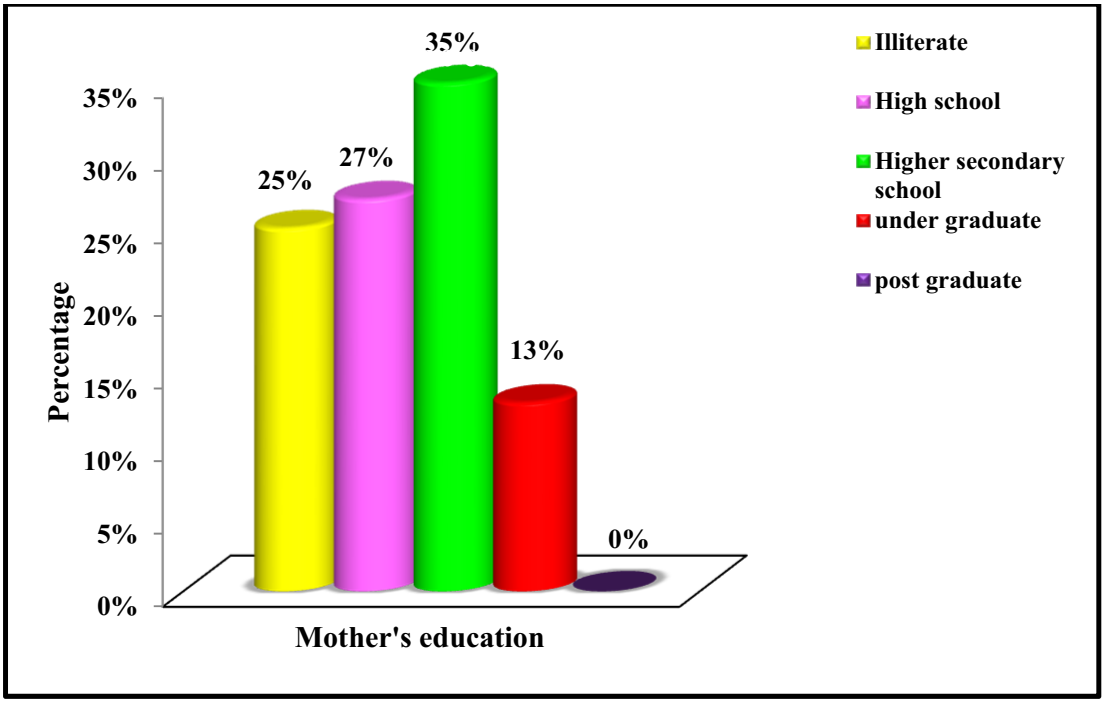

Figure 4: Distribution of adolescent girls according to their mother's education

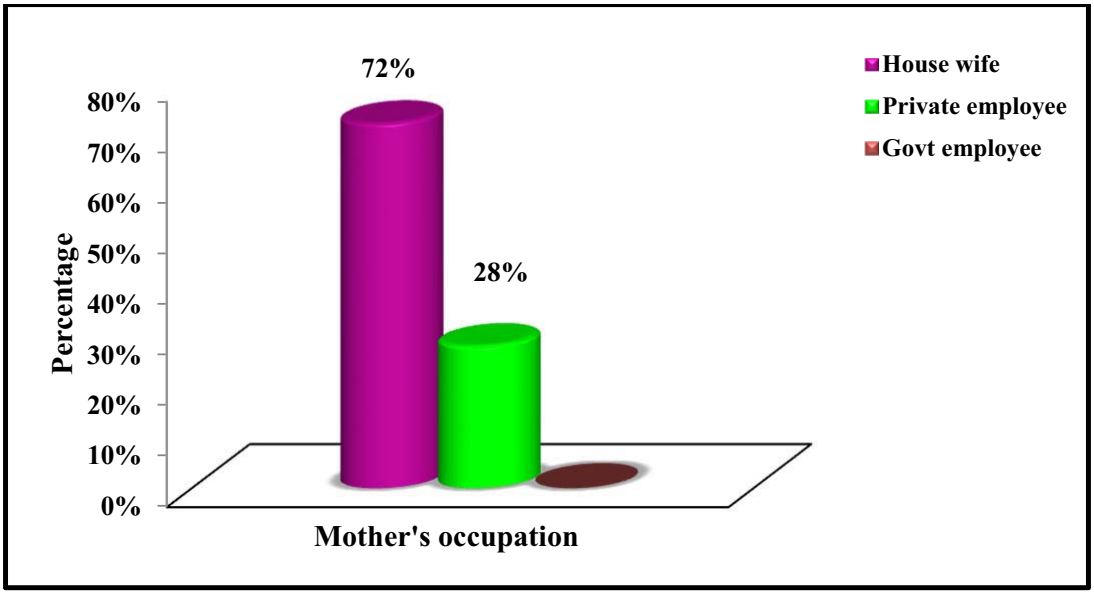

Figure 5: distribution of adolescent girls according to their mother's occupation

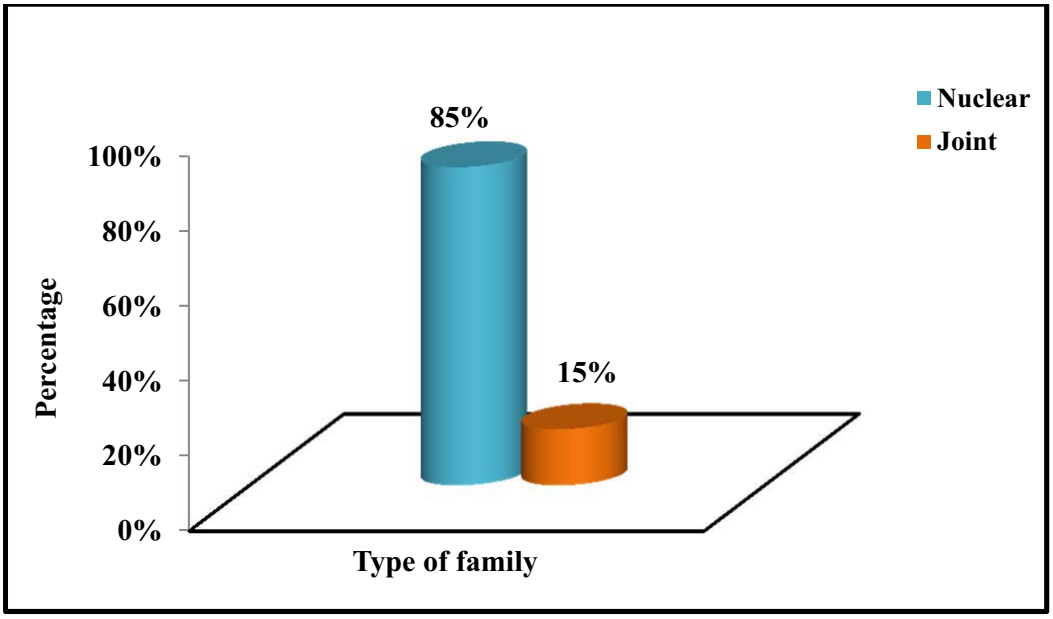

Figure 6: Distribution of adolescent girls according to their type of family

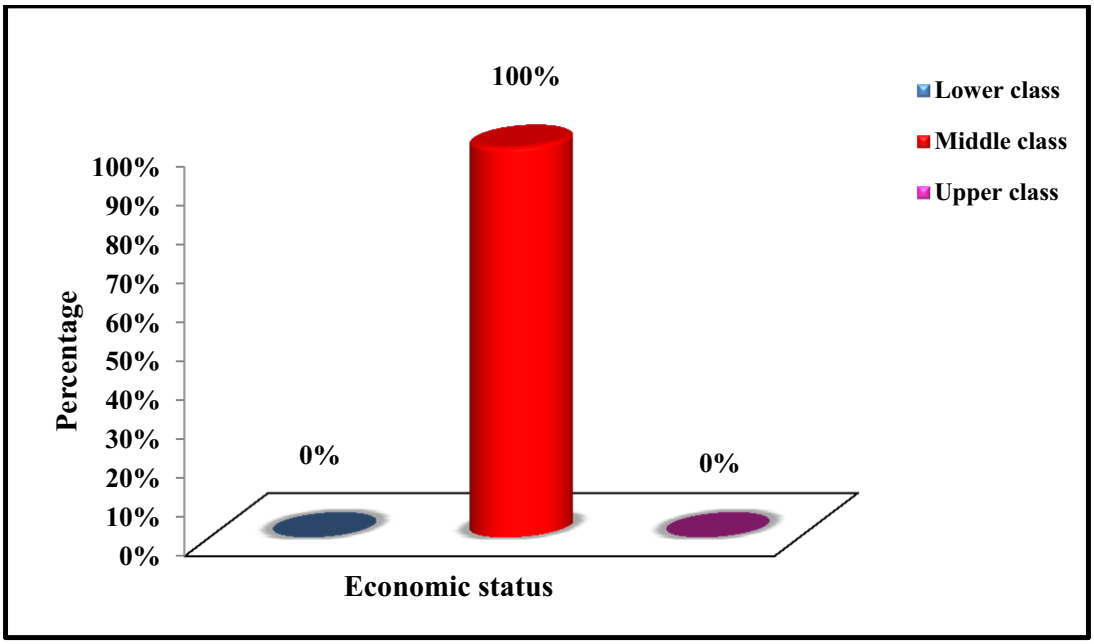

Figure 7: distribution of adolescent girls according to their economic status

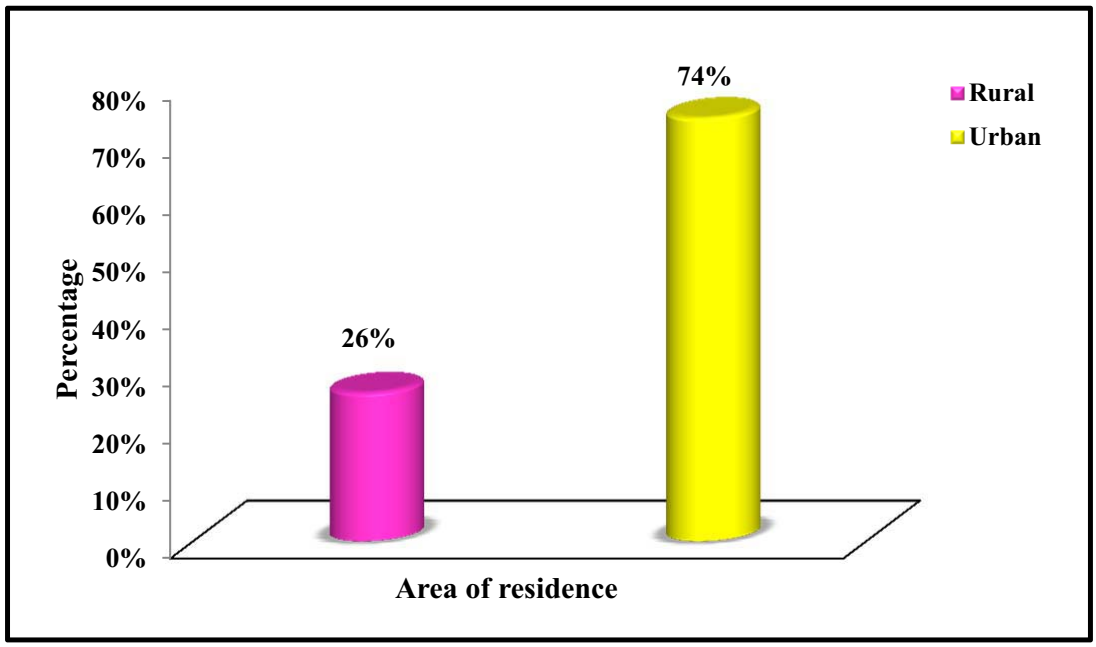

Figure 8: Distribution of adolescent girls according to their area of residence

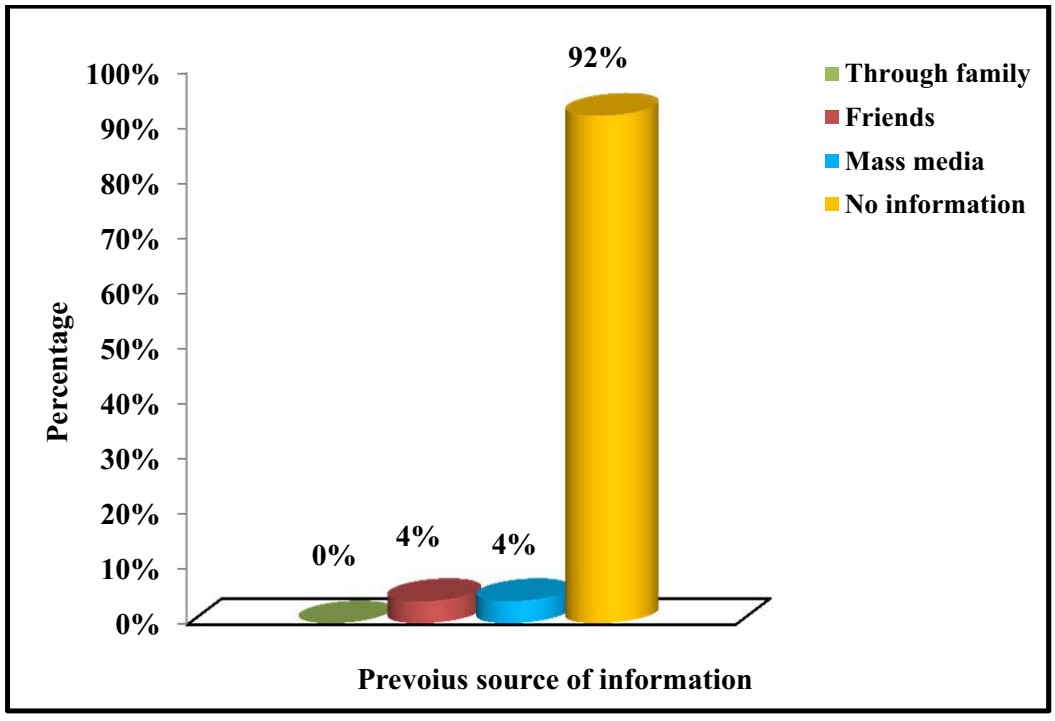

Figure 8: distribution of adolescent girls according to their source of information

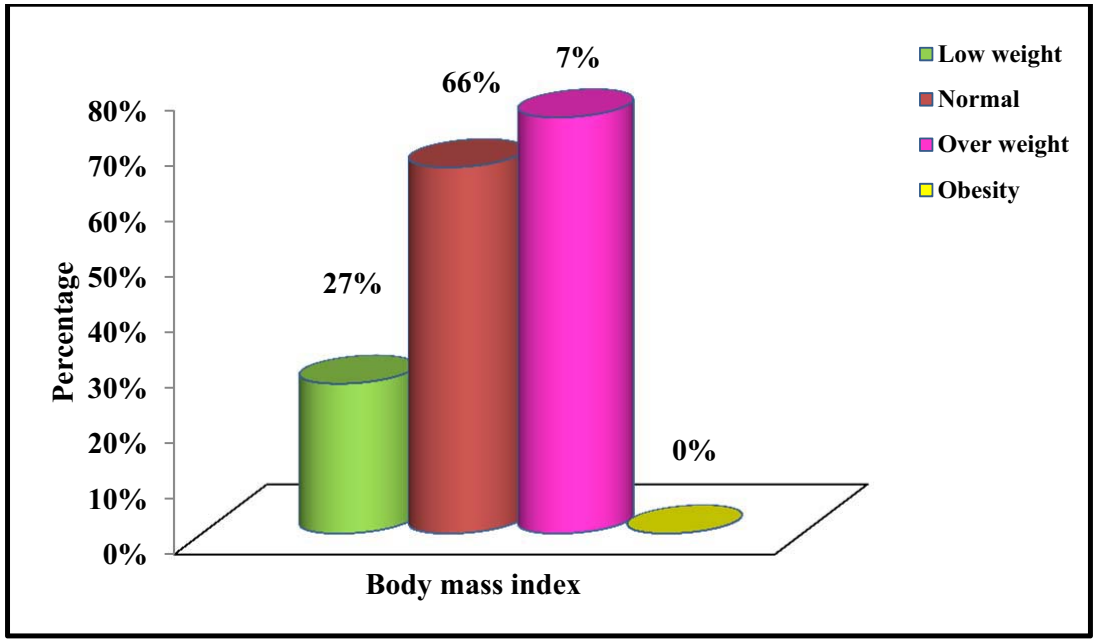

Figure 9: Distribution of adolescent girls according to their body mass index

s

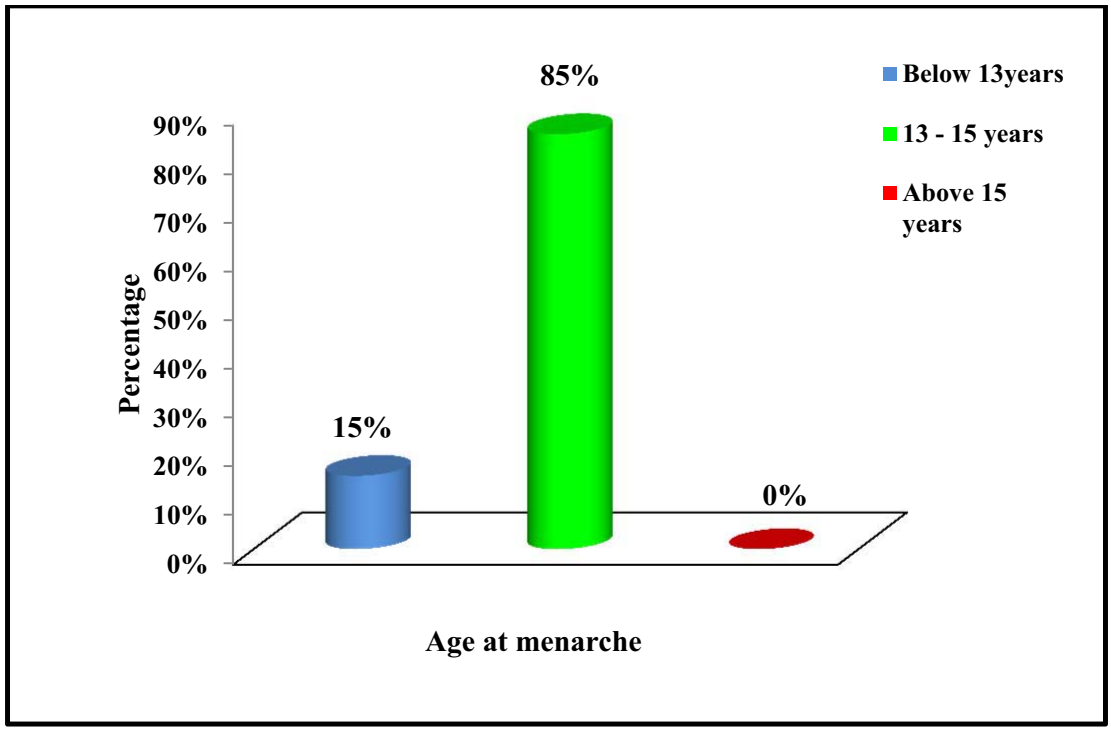

Figure 10: Distribution of adolescent girls according to their age at menarche

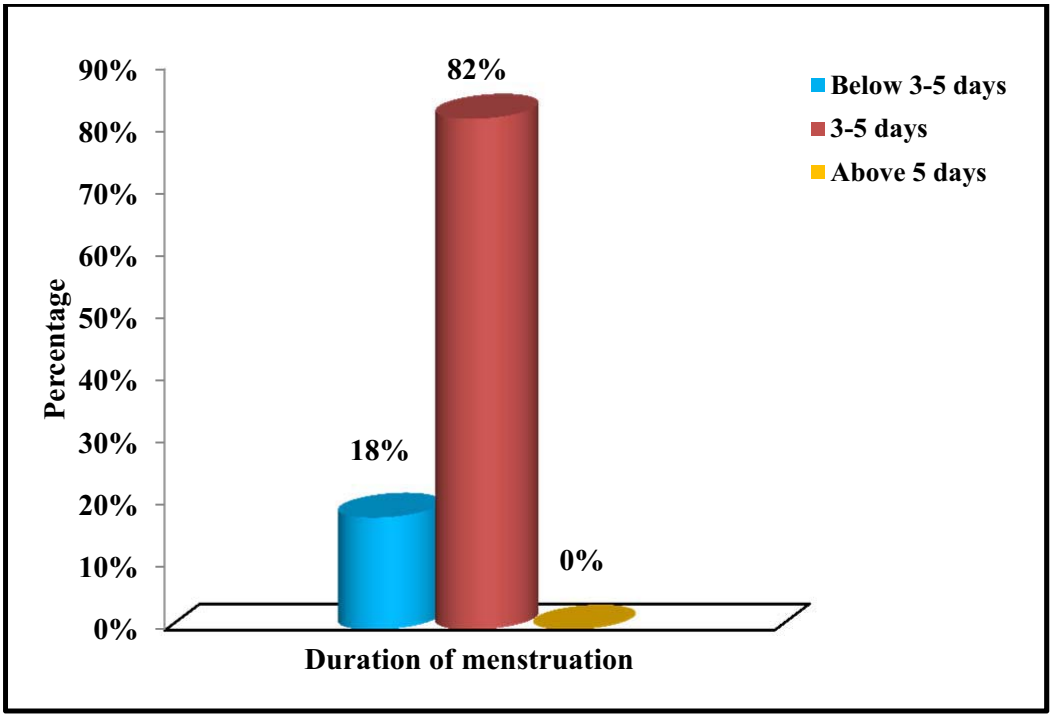

Figure 11: Distribution of adolescent girls according to their duration of menstruation

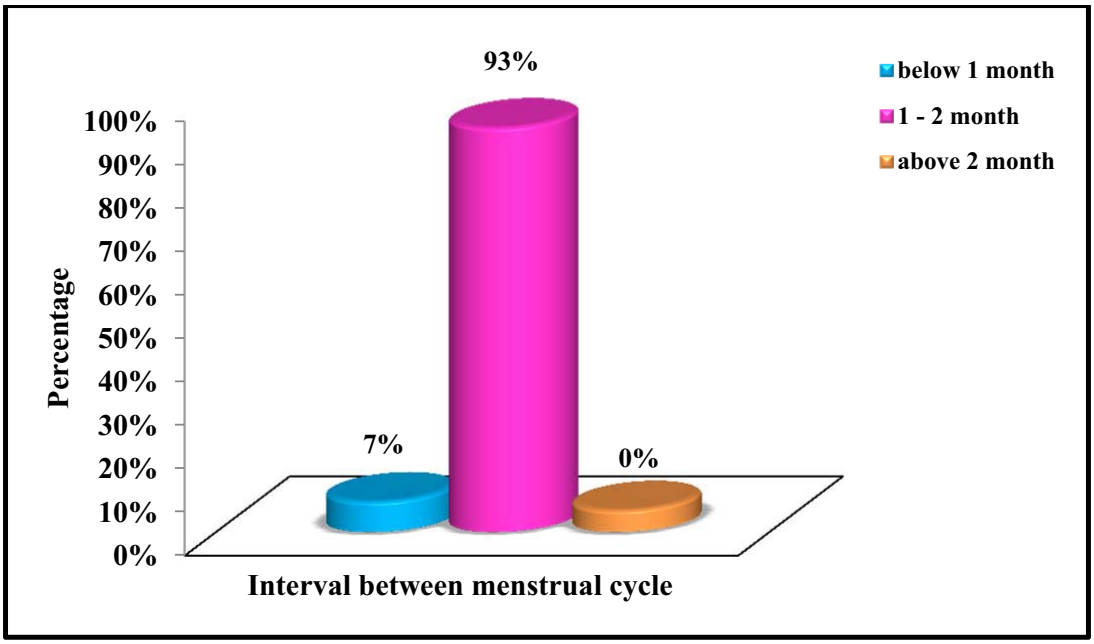

Figure 12: Distribution of adolescent girls according to their interval between menstrual cycle

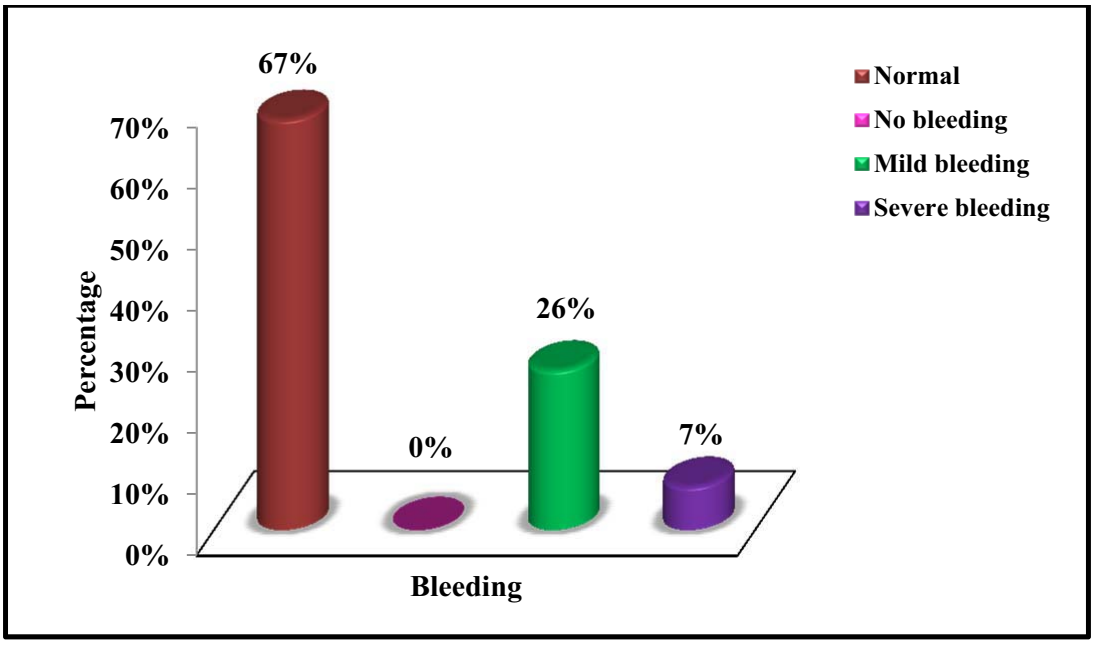

Figure 13: Distribution of adolescent girls according to their bleeding

SECTION – II

Description of adolescents according to the pretest and posttest knowledge level on polycystic ovarian syndrome

Table 3-Description of adolescents according to the pretest and posttest knowledge level on polycystic ovarian syndrome

S.NO	Level of knowledge	Pretest			Posttest		
		F	Mean	%	F	Mean	%
1.	**Above 75** (Adequate)	0	0	0	92	0.92	92
2.	**50 – 75** (Moderate)	26	0.26	26	8	0.08	8
3.	**Below 50** (Inadequate)	74	0.74	74	0	0	0

Table-3 depicts that, the pretest and posttest level of knowledge. Majority (74%) of adolescent had inadequate knowledge,(26%) had moderate knowledge. No one scored adolescent (above 75) marks in pretest but in the posttest majority (92%) of adolescents had adequate Knowledge (above 75) and only (8%) of them scored moderate knowledge level (50 – 75).

The above finding summarizes that, the self instruction module has significant beneficial effect in the level of knowledge among adolescent girls.

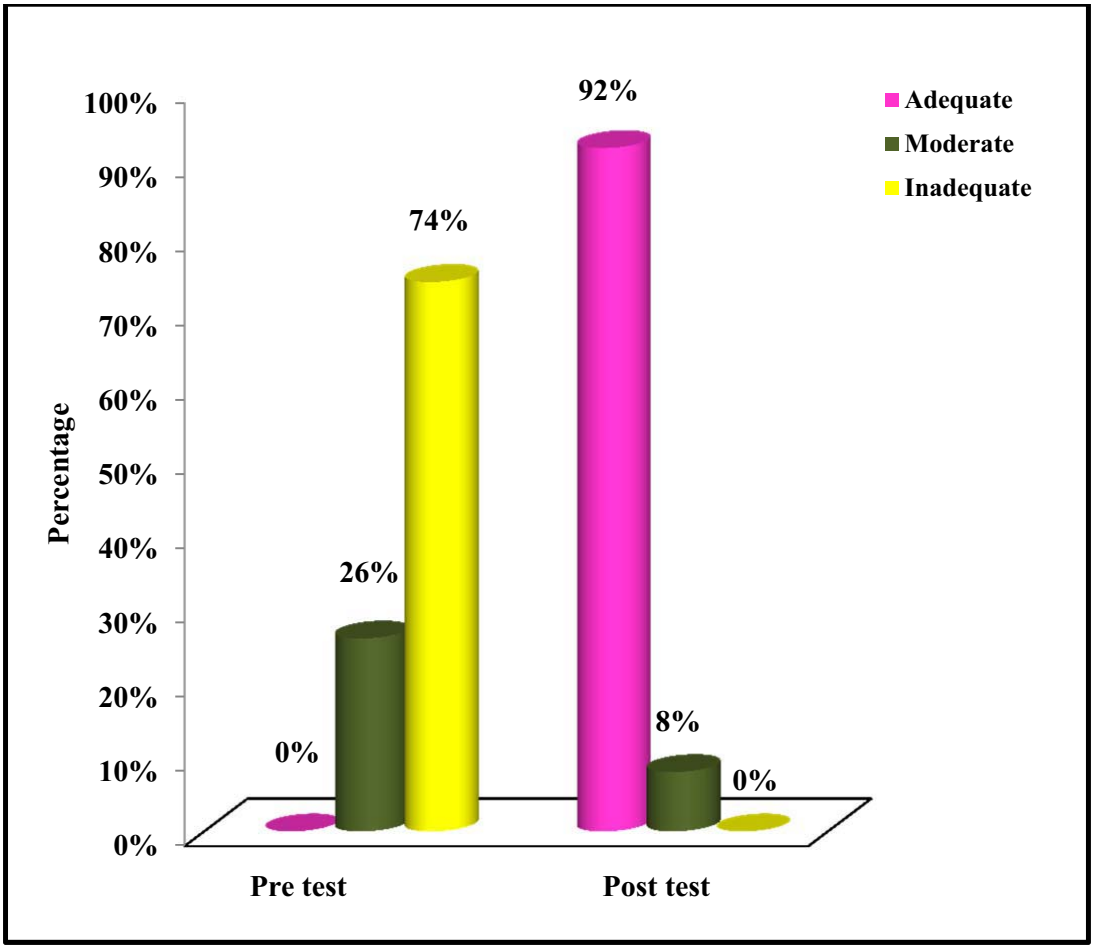

Figure 14: Distribution of adolescent girls according to their pre test and post testknowledge level

SECTION – III

Comparison of pretest and posttest knowledge level of adolescents on polycystic ovarian syndrome

Table 4-Comparison of pretest and posttest knowledge level of adolescent girls

S.NO	Level of knowledge	Mean	Mean difference	SD	't' value
1.	Pretest	11.92		2.6	
2.	Posttest	25.34	13.42	1.87	44.7

(Significant at 0.05 level)

The above table depicts comparison of mean pretest and posttest knowledge level on polycystic ovarian syndrome. The post test mean score (25.34) was high when compared to the pretest mean (11.92) score of knowledge. The obtained t value (44.7) was greater than table value at 0.05 level of significance,which shows that there is significant difference between pretest and posttest level of knowledge regarding polycystic ovarian syndrome among adolescent girls. Hence, the formulated research hypothesis H_1 was accepted.

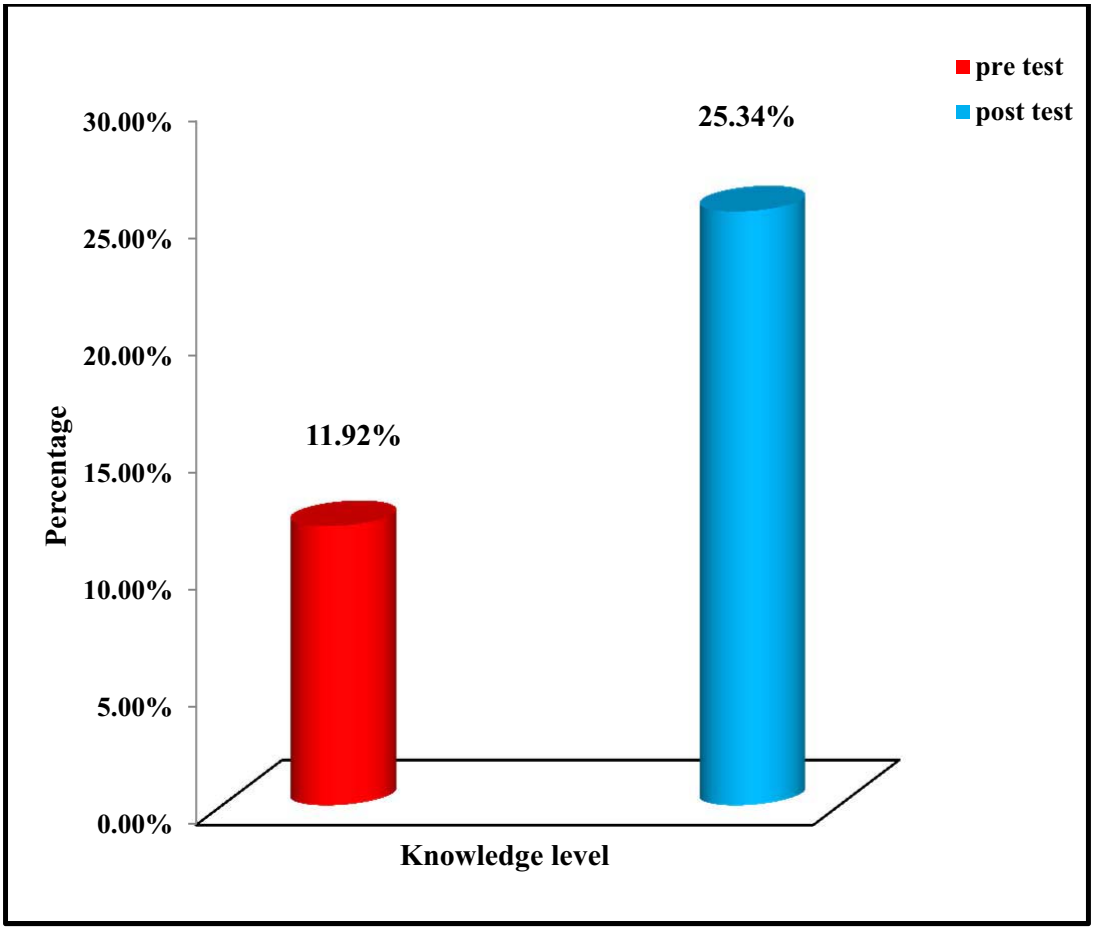

Figure 15: Distribution of adolescent girls according to their comparison of pre test and post testknowledge level

SECTION – IV

Association of pretest knowledge level of adolescent girl with their selected demographic variables

Table 5-Association of knowledge level of adolescent girl with their selected demographic variables

S.NO	Demographic variables		frequency	Chi square value x^2
1.	Age	16-17 18-19	65 35	0.48 (NS)
2.	Type of family	Nuclear Joint	85 15	6.34 (S)
3.	Area of residence	Rural Urban	26 74	5.13 (s)
4.	Previous source of information	Through family Friends Mass media No information	0 4 4 92	5.87 (NS)
5.	Body mass index	Low weight Normal Over weight Obesity	27 66 7 0	2.12 (NS)

Table-5 depicts that the association of adolescent girl's knowledge on polycystic ovarian syndrome with their age, the calculated value of chi-square (0.48) was less than the table value at 0.05 level of significance. So there was no significant association exist between the ages of polycystic ovarian syndrome with their knowledge

The above table depicts the association of adolescent girl's knowledge on polycystic ovarian syndrome with their type of family; the calculation value of chi-square (6.34) was greater than the table value at 0.05 level significance. So there is a significant association exist between the type of family with their knowledge.

The above table depicts the association of adolescent girl's knowledge on polycystic ovarian syndrome with their area of residence; the calculated value of chi-square (5.13) was greater than the table value at 0.05 level of significance. So there was significant association exist between the area of residence of adolescent girls with their knowledge

The above table depicts the association of adolescents girls knowledge on polycystic ovarian syndrome with their previous source of information regarding polycystic ovarian syndrome, the calculation value of chi-square (5.87) was the lesser than the table value at 0.05 level of significance. So there is no significant association exist between the previous source of information regarding polycystic ovarian syndrome of adolescents girls with their pretest level of knowledge

The above table depicts the association of adolescent girls knowledge on polycystic ovarian syndrome with their body mass index, the calculated value of chi-square (2.12) was lesser than the table value at 0.05 level of significance, so there is no significant association exist between the body mass indexes of adolescent girls with their knowledge.

CHAPTER- V

DISCUSSION AND CONCLUSION

CHAPTER V

DISCUSSION, SUMMARY, CONCLUSION, IMPLICATION, RECOMMENDATION.

Poly Cystic Ovarian Syndrome is a relatively common endocrine disorder in women of reproductive age group. It is found in around 70% of women who have ovulation difficulties leading to sub-fertility. Fertility problems experienced by women with Poly Cystic Ovarian Syndrome may be related to the elevated hormones (androgen and estrogen), insulin or glucose levels, all of which can interfere with implantation as well as development of the embryo. (Rizvi Javad-2015)

Polycystic ovary syndrome (PCOS) is a condition which can affect a woman's menstrual cycle, fertility, hormones and aspects of her appearance. Polycystic ovaries are slightly larger than normal ovaries and have twice the number of follicles (small cysts). Polycystic ovaries are very common affecting 20 in 100 (20%) of women. (Royal college guidelines committee-2010)

The aim of the present study was designed to evaluate the effectiveness of self instructional module on knowledge regarding polycystic ovarian syndrome among adolescent girls in selected college at sivagangai district. I selected 100 adolescent girls who were studying in the selected college at sivagangai district. Non probability sampling technique was used to derive the samples.

The first objective was to assess the pretest knowledge regarding polycystic ovarian syndrome among adolescent girls.

In this study,adolescent girls pretest knowledge score regarding polycystic ovarian syndrome was assessed. Majority (74%) of adolescent girls had inadequate knowledge and (26%) had moderate level knowledge. Nobody had adequate knowledge in the pretest.

The second objective was to assess the effectiveness of self instructional module on knowledge regarding polycystic ovarian syndrome

In the post test, Majority (92%) had adequate knowledge and only (8%) had moderate knowledge. The post test mean score (25.34) was high when compared to pre test mean (11.92) score of knowledge. The obtained't' value (44.7) was greater than table value at 0.05 level of significance ,which shows there is a significant difference between the pretest and post test knowledge of adolescent girls. Hence, the formulated research hypotheses.**H_1 was accepted**. This shows that there was a significant improvement in knowledge of adolescent girls regarding polycystic ovarian syndrome after administration of self instructional module, so the self instructional module was effective in improving knowledge of adolescent girls on polycystic ovarian syndrome.

The third objective was to associate the pretest knowledge scores with their selected demographic variables.

The present study reveals that there is a significant association between the pretest knowledge scores with their selected demographic variables. Regarding type of family, the obtained chi-square value was 6.34 at df (1) was significant at 0.05 level. Regarding area of residence, the calculated chi-square was 5.13 at df (1) was significant at 0.05 level. Hence the formulated research hypothesis, H2 was **accepted**. The other demographic variable such as age, religion, Mother's education shows no association with pretest knowledge score.

Summary:

The study was conducted to evaluate the effectiveness of self instructional module on knowledge regarding polycystic ovarian syndrome among adolescent girls in selected college at sivagangai district.

The objectives of the study were

- To assess the pretest knowledge regarding polycystic ovarian syndrome among adolescent girls.
- To evaluate the effectiveness of self-instructional module on knowledge regarding polycystic ovarian syndrome among adolescent girls.
- To find out the association between the pretest knowledge regarding polycystic ovarian syndrome with their selected demographic variables.

The hypotheses of the study were

H_1 : There is a significant difference between pretest and posttest knowledge regarding polycystic ovarian syndrome among adolescent girls.

H_2: There is a significant association between pretest knowledge with their selected demographic variables.

The first hypothesis shows significant difference between pretest and post test knowledge regarding polycystic ovarian syndrome.

Majority (74%) of adolescent girls had inadequate level of knowledge and (26%) had moderate level of knowledge. Nobody had adequate knowledge in the pretest .But in the post test majority (92%) of adolescent girls had adequate knowledge and (8%) had moderate level of knowledge .The findings summarizes that the self instructional module has significant beneficial effect in the knowledge among adolescent girls. The post test mean score(25.34) was high when compared to pretest mean score (11.92) Score of knowledge. The obtained 't' value (44.7) was greater than table values at 0.05 level of significance ,which shows there is a significant difference between pretest and post test knowledge regarding polycystic ovarian syndrome among adolescent girls. Hence, the formulated research hypotheses **H_1 was accepted.**

The second hypotheses show significant association between the knowledge score and selected demographic variables.

The present study reveals that there is a significant association between the pretest scores

With their selected demographic variables. Regarding type of family, the obtained chi-square value was 6.34 at df (1) was significant at 0.05 level. Regarding area of residence, the calculated chi-square was 5.13 at df (1) was significant at 0.05 level. Hence the formulated research hypothesis H2 was **accepted**. The other demographic variable such as age, religion, Mother's education shows no association with pretest knowledge score.

The study tested and proved the **hypotheses H_1** that there is a significant improvement in the pre test and post test knowledge of adolescent girls who received self instructional module. **H_2** that there is a significant association exist between the pretest knowledge score with their selected demographic variables.

The study was based on Shuffle Beam's CIPP Programme Evaluation Model (1960); An evaluator approach used to conduct the study. The research design adopted for the present study was pre-experimental. Purposive random sampling technique was used for selection of samples. The data was collected for a period of two weeks from the adolescent girls in selected college at sivagangai. The investigator given self instructional module on poly cystic ovarian syndrome. Then they were assessed to test knowledge after a week with structured questionnaire.

Based on the objectives and hypotheses, the data were analysed using both descriptive and inferential statistics.

Major findings of the study:

- Out of 100 adolescents girls, with regards to age (65%) were 16 – 17 years, (35%) were 18 – 19 years.
- Regards to religion, majority of the samples (86%) belongs to Hindu and (14%) were Christians and no Muslims.
- Regarding mother's educational status (25%) were illiterate,(27%) had high school,(35%) were higher secondary school,(13%) were under graduate and no post graduate.
- Regarding to mother's occupation majority of the samples (72%) were Housewife ,(28%) were private employee and no Government employee.
- With regards to type of family (85%) were Nuclear and (15%) were Joint family.
- Distribution of subjects with reference to Economic status (100%) were middle class and no lower class and upper class.
- With regards to Area of Residence (26%) were rural and (74%) were Urban.
- With regards to Source of information majority of the samples (92%) belongs to No previous information, and (4%) were from mass media,(4%) from friends.
- Regarding Body mass index majority of samples (66%) belongs to normal, (27%) were low weight, (7%) belongs to overweight and no one belongs to obesity
- Regarding Age at menarche (85%) belongs to 13 – 15 yrs, (5%) belongs to below 13 years and no one in above 15 years

- Regarding duration of menstruation majority of the sample (82%) belongs to 3 – 5 days.
- Regarding interval between menstrual cycle (93%) belongs to 1 – 2 months,(7%) were below 1 month and no one belongs to above 2 month .
- Regarding bleeding (67%) belongs to normal bleeding, (26%) mild bleeding, (7%) belongs to severe bleeding and no one belongs to no bleeding.
- pre test knowledge score of adolescent girls on polycystic ovarian syndrome, (74%) of adolescent girls had inadequate level of knowledge and (26%) had moderate level of knowledge. Nobody had adequate knowledge in the pretest .But in the post test , majority (92%) of adolescent girls had adequate knowledge and (8%) had moderate level of knowledge . The post test mean score(25.34) was high when compared to pretest mean score (11.92) of knowledge. The obtained 't' value (44.7) was greater than table values at 0.05 level of significance ,which shows there is a significant difference between pretest and post test knowledge regarding polycystic ovarian syndrome among adolescent girls. Hence ,the formulated research hypotheses **H_1 was accepted.** This shows that there was significant improvement in knowledge score on polycystic ovarian syndrome after administering self instructional module.
- Study reveals that there is a significant association between the pre test knowledge score with their selected demographic variables. Regarding type of family, the obtained chi-square value was 6.34 at df (1) was significant at 0.05 level.Rregarding area of residence the calculated chi-square was 5.13 at df (1) was significant at 0.05 level. Hence the formulated research hypotheses **H_2 was accepted.** The other demographic variables such as age, religion, Mother's education shows no association with pretest knowledge score.

Conclusion :

The above study depicts that, the obtained value was greater than the table value which shows significant improvement in knowledge of adolescent girls. Hence the self instructional module was effective.

Implications:

The present study findings have several implications in hospital settings, nursing practice, nursing education, nursing research, and nursing administration.

Nursing practice:

- Nurse owes a great responsibility in educating the people regarding polycystic ovarian syndrome.

Nursing Education:

- Self instructional module can be used by the student to imparting knowledge on polycystic ovarian to the adolescent girls in both urban and rural while giving health education.
- Nurse educator can prepare the nursing students in order to give importance of teaching programme on polycystic ovarian syndrome by using different educational and teaching aids.

Nursing research:

The findings of the present study are helpful for the nursing professionals and nursing teachers to conduct further studies to find out the effectiveness of various methods of providing education on improving the knowledge regarding polycystic ovarian syndrome.

Nursing administration:

- Nurse administrator should take interest in motivating the nursing personnel to improve their professional knowledge and skill by attending the workshops, conferences, seminars on polycystic ovarian syndrome.
- Nurse administrator should arrange regular in service education program to the health care workers for gaining knowledge.

Recommendations :

- A comparative study may be conducted to evaluate the effectiveness of self instructional module.
- A similar study can be conducted on large sample to assess the knowledge and attitude regarding polycystic ovarian syndrome.
- A study can be conducted in assessing knowledge and practice of polycystic ovarian syndrome.

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APPENDIX I

RESEARCH TOOL

Effectiveness of Self Instructional Module (SIM) on knowledge regarding polycystic ovarian syndrome (PCOS) among adolescent girls in selected college at Sivagangai

SECTION - A

DEMOGRAPHIC DATA

SAMPLE NO:

SECTION: A

1. Age in years
    a) 16-17 years
    b) 18-19 years
2. Religion
    a) Hindu
    b) Christian
    c) Muslim
3. Mother's educational qualification
    a) Illiterate
    b) Primary
    c) Secondary
    d) Undergraduate
    e) Postgraduate
4. Mother's occupation
    a) House wife
    b) Private employee
    c) Government employee
5. Type of family
    a) Nuclear
    b) Joint
6. Socio economic status
    a) Lower class family
    b) Middle class family
    c) Upper class family
7. Area of residence
    a) Rural
    b) Urban

8. Source of previous information regarding polycystic ovarian syndrome?
    a) Through family members
    b) Through friends
    c) Mass media
    d) no information

MEASUREMENTS:

1. Height ----------
2. Weight ----------

MENSTRUAL DATA:

1. Age at menarche ----------
2. Duration of menstruation ----------
3. Frequency of menstruation ----------
4. Menstrual bleeding:

    a)Normal bleeding

    b)Absence of bleeding

    c)Mild bleeding

    d)Severe bleeding

SECTION: B - SEMI STRUCTURED QUESTIONNIARE:

<u>Instruction</u> : please read the following questions and tick the answer in the appropriate options

1. Where are the ovaries situated in female reproductive system?
    a) Inside the uterus
    b) Each side of the uterus
    c) Below the uterus
    d) Above the uterus
2. How many ovaries are present in female reproductive system?
    a) 2
    b) 4
    c) 1
    d) 3
3. What is the shape of the ovaries?
    a) Diamond
    b) Square
    c) round
    d) almond
4. What are the two types of cells present in the ovaries?
    a) Stroma cells and squamous cells
    b) Stratified cells and columnar cells
    c) Granulosa cells and theca cells
    d) Epithelial cells and endothelial cells
5. Which female hormones are produced by ovaries?
    a) Estrogen and progesterone
    b) Testosterone
    c) Prolactin
    d) thyroid
6. What is polycystic ovarian syndrome (PCOS)?
    a) Excessive androgen without enlarged polycystic ovaries
    b) Excessive androgen with hirsutism,amenorrhoea,obesity and enlarged polycystic ovaries
    c) Excessive thyroxin with amenorrhoea
    d) Excessive prolactin with obesity
7. Which age group people are mostly affected by polycystic ovarian syndrome?
    a) Pre puberty
    b) Postmenopausal
    c) Adolescent
    d) Old age

8. Who are all at risk people for develops polycystic ovarian syndrome?
    a) Family history of seizure
    b) Family history of diabetes
    c) Family history of cardiovascular disease
    d) Family history of night blindness
9. Which is the hormone responsible for develops polycystic ovarian syndrome?
    a) Thyroxin and estrogen
    b) Epinephrine and estrogen
    c) Estrogen and catecholamine
    d) Estrogen and testosterone
10. What is the cause of polycystic ovarian syndrome?
    a) Alteration in hypothalamus pituitary function
    b) Alteration in thyroid function
    c) Alteration in renal function
    d) Alteration in adrenal gland
11. What is hyperinsulinemia?
    a) Increased level of glucagon in blood
    b) Increased level of thyroxin in blood
    c) Increased level of insulin in blood
    d) Increased level of adrenaline in blood
12. Which enzyme is released by ovarian follicles due to hyperinsulinemia in polycystic ovarian syndrome?
    a) Peptidase
    b) Leptin
    c) Aromatase
    d) peptin
13. Which enzyme is essential for converting androgen to estrogen?
    a) Glucagon
    b) Insulin
    c) Aromatase
    d) Leptin
14. Which is the protein essential to bind with testosterone and estrogen in blood?
    a) Sex hormone binding globulin
    b) Somatic hormone binding globulin
    c) Estrogen hormone binding globulin
    d) Testosterone hormone binding globulin
15. How the hyper estrogenic (increased estrogen level) stage will occur?
    a) Increased aromatization of progesterone
    b) Increased aromatization of estrogen
    c) Increased aromatization of androgen
    d) Increased aromatization of prolactin

16. What is Hirsutism?
    a) Excessive nail growth
    b) Excessive hair growth
    c) Excessive muscle growth
    d) Excessive skin growth

17. Where is the location of Acanthosis Nigrians in polycystic ovarian syndrome?

    a) Leg
    b) Face
    c) Neck
    d) Eye

18. How many menstrual cycles occur in polycystic ovarian syndrome patient per year?
    a) Less than 6 cycles per year
    b) Less than 10 years per year
    c) Less than 8 cycle per year
    d) Less than 2 cycle per year

19. How to identify polycystic ovarian syndrome through blood test?
    a) Hemoglobin test
    b) Liver function test
    c) Renal function test
    d) Hormone test

20. Which is the major diagnostic tool for polycystic ovarian syndrome?
    a) Ultrasound for abdomen and uterus
    b) Echo
    c) X ray
    d) Doppler scan

21. What is the first line treatment for polycystic ovarian syndrome?
    a) Surgery
    b) exercise
    c) Diet and exercise
    d) Medication

22. What type of diet should be taken for polycystic ovarian syndrome?
    a) Fried food items
    b) Fiber and protein rich diet
    c) Fat rich diet
    d) Carbohydrate rich diet

23. What type of diet should be avoided for polycystic ovarian syndrome?
    a) Fat
    b) Protein
    c) Unsaturated oils
    d) Fiber

24. What is the salt requirement per day in polycystic ovarian syndrome patient?
    a) Less than 2600 mg per day
    b) Less than 2000 mg per day
    c) Less than 2200 mg per day
    d) Less than 2400 mg per day
25. What is to be used instead of salt in dietary management of polycystic ovarian syndrome patient?
    a) Iodine salt
    b) Lemon
    c) Honey
    d) Sauces
26. What are the drugs used to correct irregular menstruation in polycystic ovarian syndrome?
    a) Metformin
    b) Contraceptive pills
    c) Progesterone tablets
    d) All the above
27. Which cream is used for unwanted hair growth in polycystic ovarian syndrome?
    a) Progesterone
    b) Flutamide
    c) Eflorthine
    d) Ranitidine
28. What are the drugs used to treat infertility in polycystic ovarian syndrome?
    a) Clomifene,metformin,gonodotrphins
    b) Clomifene with metformin
    c) Clomifene
    d) gonodotrophins
29. What is the surgical treatment for polycystic ovarian syndrome?
    a) Resection of ovary
    b) Hysterectomy
    c) Thyroidectomy
    d) Ovarian diathermy
30. What is the complication of polycystic ovarian syndrome?
    a) Carcinoma in liver
    b) Carcinoma in uterus
    c) Carcinoma in abdomen
    d) Carcinoma in pelvis

APPENDIX – II

பிரிவு – அ

பொதுப்புள்ளி விவரப்பட்டியல்

1. **வயது**

   அ) 16லிருந்து 17 வரை

   ஆ) 18லிருந்து 19 வரை

2. **மதம்**

   அ) இந்து

   ஆ) கிறிஸ்டியன்

   இ) முஸ்லீம்

3. **தாயின் கல்வித் தகுதி**

   அ) படிக்கவில்லை

   ஆ) அடிப்படைக்கல்வி

   இ) உயர்நிலைக்கல்வி

   ஈ) பட்டப்படிப்பு

   உ) முதுகலைபட்டம்

4. **தாயின் தொழில்**

   அ) இல்லத்தரசி

   ஆ) தனியார் ஊழியர்

   இ) அரசாங்க ஊழியர்

5. **குடும்பத்தின் வகை**

   அ) தனிக்குடும்பம்

   ஆ) கூட்டுக்குடும்பம்

6. **பொருளாதார நிலைமை**

   அ) கீழ்நிலை

   ஆ) நடுநிலை

   இ) உயர்நிலை

7. குடியிருப்பு

அ) கிராமம்

ஆ) நகரம்

8. எதன் மூலமாக அண்டக நீர்க்கட்டி நோயினை அறிந்து கொண்டீர்கள்

அ) குடும்ப நபர்கள்

ஆ) நண்பர்கள்

இ) தொழில் நுட்பம்

ஈ) செய்தி அறியவில்லை

உடல் அளவுகள்

1. உயரம் _____

2. எடை _____

மாதவிடாய் பற்றிய தகவல்கள்:

1. பூப்படைந்த வயது _____

2. மாதவிடாயின் கால அளவு _____

3. மாதவிடாய் சுழற்சிக்கு இடைப்பட்ட கால அளவு _____

4. மாதவிடாய் இரத்தபோக்கு

அ) சரியான அளவு

ஆ) மாதவிடாயின்மை

இ) குறைந்த அளவு

ஈ) அதிக அளவு

பிரிவு - ஆ

அண்டக நீர்க்கட்டி நோய் பற்றிய அறிவினை சோதித்து அறியும் வினாவிடைகள்

1. பெண்ணின் இனப்பெருக்க உறுப்பாகிய அண்டகங்கள் எங்கே அமைந்துள்ளது?

அ) கர்ப்பபையின் உள்ளே

ஆ) கர்ப்பபையின் இருபுறத்திலும்

இ) கர்ப்பபைக்கு கீழ்

ஈ) கர்ப்பபைக்கு மேல்

2. பெண்ணின் இனப்பெருக்க உறுப்பில் எத்தனை அண்டகங்கள் உள்ளன?

அ) 2

ஆ) 4

இ) 1

ஈ) 3

3. பெண்ணின் இனப்பெருக்க உறுப்பாகிய அண்டகங்களின் வடிவம் என்ன?

அ) வைர வடிவம்

ஆ) சதுரம்

இ) வட்டம்

ஈ) பாதாம் பருப்பு போன்ற வடிவம்

4. அண்டகங்களில் காணப்படும் இரண்டு வகையான செல்கள் என்ன?

அ) ஸ்டீரோமா மற்றும் ஸ்குவாமஸ் செல்கள்

ஆ) ஸ்ட்ராபிபைடு மற்றும் காலும்னார் செல்கள்

இ) கிரானுலோசா மற்றும் தீகா செல்கள்

ஈ) எபிதீலியல் மற்றும் எண்டோதீலியல் செல்கள்

5. அண்டகங்களினால் சுரக்கப்படும் பெண் இன ஹார்மோன் எது?

அ) ஈஸ்ட்ரோஜன் மற்றும் ப்ரோஜெஸ்டிரான்

ஆ) டெஸ்டோஸ்டீரான்

இ) ப்ரோலாக்டின்

ஈ) தைராக்சின்

6. அண்டக நீர்க்கட்டி நோய் என்றால் என்ன?

அ) அதிக அளவு ஆன்ட்ரோஜன் மற்றும் வீக்கமற்ற நீர்க்கட்டிகளை கொண்ட அண்டகம்

ஆ) அதிக அளவு ஆன்ரோஜனுடன் ஹிர்சுடிசம், மாதவிடாயின்மை மற்றும் உடல்பருமன், வீக்கமுள்ள நீர்க்கட்டிகளை கொண்ட அண்டகம்

இ) அதிக அளவு தைராக்சினுடன் மாதவிடாயின்மை

ஈ) அதிக அளவு ப்ரோலாக்டினுடன் உடல் பருமன்

7. அண்டக நீர்க்கட்டி நோயினால் எந்த வயதுள்ள பெண்கள் அதிகமாக பாதிக்கப்படுகின்றனர்?

அ) பருவம் அடைவதற்கு முன்

ஆ) மாதவிடாய் சுழற்சி முற்று பெற்ற பெண்கள்

இ) பருவ வயதில் உள்ள இளம்பெண்கள்

ஈ) வயதான பெண்கள்

8. அண்டக நீர்க்கட்டி நோய் அதிகமாக யாருக்கு வரலாம்?

அ) பரம்பரை வலிப்பு நோய்

ஆ) பரம்பரை சர்க்கரை வியாதி

இ) பரம்பரை இதயம் சம்மந்தப்பட்ட நோய்கள்

ஈ) பரம்பரை மாலைக்கண் நோய்

9. எந்த ஹார்மோனின் அளவு அதிகரிப்பதால் அண்டக நீர்க்கட்டி நோய் ஏற்படும்?

அ) தைராக்சின் மற்றும் ஈஸ்ட்ரோஜன்

ஆ) ஈஸ்ட்ரோஜன் மற்றும் எபிநெப்ரின்

இ) ஈஸ்ட்ரோஜன் மற்றும் காலமைன்

ஈ) ஈஸ்ட்ரோஜன் மற்றும் ஆன்ட்ரோஜன்

10. அண்டக நீர்க்கட்டி நோயின் காரணி என்ன?

அ) ஹைபோதலாமஸ் - பிட்டியூட்டரின் செயல்பாடுகளில் மாற்றங்கள்

ஆ) தைராய்டு செயல்பாடுகளில் மாற்றங்கள்

இ) சீறுநீரக செயல்பாடுகளில் மாற்றங்கள்

ஈ) அட்ரினலின் செயல்பாடுகளில் மாற்றங்கள்

11. ஹைபர்இன்சுலினீமியா என்றால் என்ன?

அ) இரத்தத்தில் குளுக்கோகான் அளவு அதிகரித்தல்

ஆ) இரத்தத்தில் தைராக்சின் அளவு அதிகரித்தல்

இ) இரத்தத்தில் இன்சுலின் அளவு அதிகரித்தல்

ஈ) இரத்தத்தில் அட்ரினலின் அளவு அதிகரித்தல்

12. அண்டகநீர்க்கட்டி நோயில் அதிக அளவு இன்சுலினால் அண்டகங்களில் இருந்து வெளிவரும் என்சைம் எது?

அ) பெப்டிடேஸ்

ஆ) லெப்டின்

இ) அரமடேஸ்

ஈ) பெப்டின்

13. ஆன்டோரஜனை ஈஸ்ட்ரோஜனாக மாற்றுவதற்கு தேவைப்படும் என்சைம் எது?

அ) குளுகஹான்

ஆ) இன்சுலின்

இ) அரமடேஸ்

ஈ) லெப்டின்

14. இரத்தத்தில் டெஸ்டோஸ்டீரானையும், ஈஸ்ட்ரோஜனையும் பினைக்க தேவைப்படும் புரதம் எது?

அ) செக்ஸ் ஹார்மோன் பைன்டிங் குளோபுலின்

ஆ) சொமாடிக் ஹார்மோன் பைன்டிங் குளோபுலின்

இ) ஈஸ்ட்ரோஜன் ஹார்மோன் பைன்டிங் குளோபுலின்

ஈ) டெஸ்டோஸ்டீரான் பைன்டிங் குளோபுலின்

15. எதனால் ஈஸ்ட்ரோஜன் அளவு அதிகமாகிறது?

அ) ப்ரோஜெஸ்டிரான் அதிகரிப்பதால்

ஆ) ஈஸ்ட்ரோஜன் அதிகரிப்பதால்

இ) ஆன்ட்ரோஜன் அதிகரிப்பதால்

ஈ) ப்ரொலாக்டின் அதிகரிப்பதால்

16. ஹிர்சுடிசம் என்றால் என்ன?

அ) அதிகமான ரோம வளர்ச்சி

ஆ) அதிகமான நகம் வளர்ச்சி

இ) அதிகமான தசை வளர்ச்சி

ஈ) அதிகமான தோல் வளர்ச்சி

17. அண்டக நீர்க்கட்டி நோய் உள்ளவர்களுக்கு எகான்தோசிஸ் நைக்ரியன்ஸ் எங்கே காணப்படும்?

அ) கால்

ஆ) முகம்

இ) கழுத்து

ஈ) கண்

18. அண்டக நீர்க்கட்டி நோய் உள்ளவர்களுக்கு ஒருவருடத்தில் எத்தனை முறை மாதவிடாய் சுழற்சி ஏற்படும்?

அ) 8க்கு குறைவாக

ஆ) 6க்கு குறைவாக

இ) 2க்கு குறைவாக

ஈ) 10க்கு குறைவாக

19. இரத்தத்தில் அண்டக நீர்க்கட்டி நோயினை எவ்வாறு கண்டறியலாம்?

அ) ஹிமோகுளோபின் சோதனை

ஆ) கல்லீரல் செயல்பாடு சோதனை

இ) சிறுநீரக சோதனை

ஈ) ஹார்மோன் சோதனை

20. அண்டக நீர்க்கட்டி நோயினை கண்டறியும் முக்கியமான சோதனை என்ன?

அ) வயிறு மற்றும் கர்ப்பபை அல்ட்ராசவுண்ட் ஸ்கேன்

ஆ) எ.ஃ.கோ

இ) எக்ஸ்ரே

ஈ) டாப்லர் ஸ்கேன்

21. அண்டக நீர்க்கட்டி நோய்க்கு எது முதன்மையான சிகிச்சை முறை?

அ) அறுவை சிகிச்சை

ஆ) உடற்பயிற்சி

இ) உணவு வகைகள் மற்றும் உடற்பயிற்சி

ஈ) மாத்திரைகள்

22. அண்டக நீர்க்கட்டி நோய்க்கு எந்த வகையான உணவுப்பொருட்களை எடுத்து கொள்ள வேண்டும்?

அ) வறுக்கப்பட்ட உணவுப்பொருட்கள்

ஆ) புரதம் மற்றும் நார்சத்து உணவுப் பொருட்ள்

இ) கொழுப்பு சத்து நிறைந்த உணவுப்பொருட்கள்

ஈ) கார்போஹைட்ரேட் நிறைந்த உணவுப் பொருட்கள்

23. அண்டக நீர்க்கட்டி நோய்க்கு எந்த வகையான உணவுப்பொருட்களை தவிர்க்க வேண்டும்?

அ) கொழுப்பு சத்து நிறைந்த உணவுப் பொருட்கள்

ஆ) புரதம் சத்து நிறைந்த உணவுப்பொருட்கள்

இ) செறிவூட்டப்படாத எண்ணெய்கள்

ஈ) நார்சத்து நிறைந்த உணவுப்பொருட்கள்

24. அண்டகநீர்க்கட்டி நோய் உள்ளவர்கள் ஒரு நாளைக்கு எவ்வளவு உப்பு சேர்த்து கொள்ள வேண்டும்?

அ) 2600 அளவுக்கு குறைவாக

ஆ) 2000 அளவுக்கு குறைவாக

இ) 2200 அளவுக்கு குறைவாக

ஈ) 2400 அளவுக்கு குறைவாக

25. அண்டகநீர்க்கட்டி நோய்க்கு உணவில் உப்பிற்கு பதிலாக எதை சேர்த்து கொள்ள வேண்டும்?

அ) அயோடின் உப்பு

ஆ) எலுமிச்சை

இ) தேன்

ஈ) சாஸ்

26. அண்டக நீர்க்கட்டி நோயினால் ஏற்படும் ஒழுங்கற்ற மாதவிடாய் சுழற்சிக்கு எந்த மாத்திரையை எடுத்து கொள்ள வேண்டும்?

அ) மெட்பார்ரிமின்

ஆ) கருத்தடை மாத்திரைகள்

இ) ப்ரோஜெஸ்டிரான் மாத்திரைகள்

ஈ) இவை அனைத்தும்

27. அண்டக நீர்க்கட்டி நோயினால் ஏற்படும் தேவையற்ற ரோம வளர்ச்சிக்கு எந்த கிரிமை பயன்படுத்த வேண்டும்?

அ) ∴ப்ரோஜெஸ்டிரான்

ஆ) ∴புளுடமைடு

இ) எ.∴போலோர்தீன்

ஈ) ரானிடிடின்

28. அண்டக நீர்க்கட்டி நோயினால் ஏற்படும் கருவுறுதல் பிரச்சனைகளுக்கு எந்த மாத்திரையை எடுத்து கொள்ள வேண்டும்?

அ) குளோமிபேன், மெட்பார்மின் மற்றும் குனோடோட்ரோபின்

ஆ) குளோமிபேனுடன் மெட்பார்மின்

இ) குளோமிபேன்

ஈ) குனோடோட்ரோபின்

29. அண்டக நீர்க்கட்டி நோய்க்கு செய்யும் அறுவைசிகிச்சை என்ன?

அ) அண்டகத்தை நீக்குதல்

ஆ) தைராய்டை நீக்குதல்

இ) கர்ப்பபையை நீக்குதல்

ஈ) ஓவேரியன் டையதெர்மி

30. அண்டக நீர்க்கட்டி நோயினால் ஏற்படும் விளைவு எது?

அ) கல்லீரல் புற்றுநோய்

ஆ) கர்ப்பபை புற்றுநோய்

இ) வயிற்றில் புற்றுநோய்

ஈ) இடுப்பெலும்பில் புற்றுநோய்

APPENDIX - IV

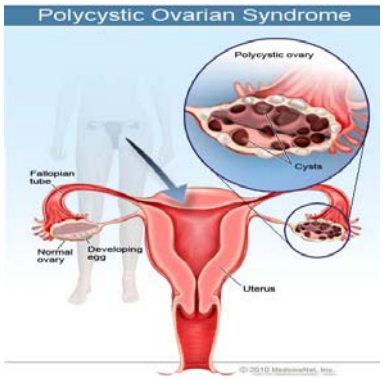
ANSWER KEY

Answer key and score for the knowledge questionnaire to assess the knowledge regarding polycystic ovarian syndrome.

SL.NO	ANSWER KEY	SCORE
1	b	1
2	a	1
3	d	1
4	c	1
5	a	1
6	b	1
7	c	1
8	b	1
9	d	1
10	a	1
11	c	1
12	b	1
13	c	1
14	a	1
15	c	1
16	b	1
17	c	1
18	c	1
19	d	1
20	a	1
21	c	1
22	b	1
23	a	1
24	a	1
25	b	1
26	d	1
27	c	1
28	a	1
29	d	1
30	b	1

Polycystic Ovarian Syndrome (PCOS) and its management

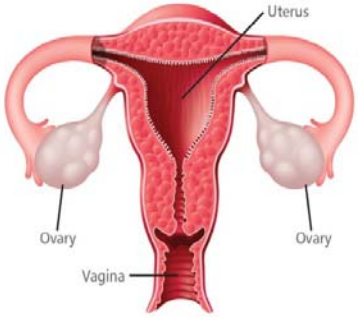
Introduction:



Polycystic ovarian syndrome (pcos) is a common condition in reproductive age group. It is an hormone disorder among women of reproductive age and it is the leading cause of infertility.

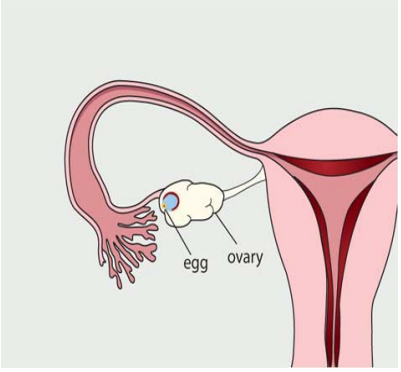
Anatomy of Ovaries:

1. In female reproductive system the ovaries are two in number, situated one on each side of the uterus which is present deep in a women's pelvis.
2. The ovaries are situated close to the end of the fallopian tubes.
3. The ovaries are almond shaped and about 3.5 cm long, 2cm wide, 1.5 cm thick and it weighs 4-8 grams
4. In each ovaries 5-7 ovarian follicles are present and it measures 2 mm
5. Granulose cells and theca calls are present in ovaries



Function of Ovaries:

1. Every month they produce mature eggs for menstruation and fertilization.
2. They produce female hormones(estrogen and progesterone) and lesser amount of male hormones (androgen)



Ovulation:

Mature egg (ovum) released from ovary. It is essential for menstruation and fertilization

Normal values of hormones:

Luitenising hormone	5-25 IU/l
Follicle stimulating hormone	4.7-21.5 MIU/ml
Testosterone	15-70 ng/dl
Sex hormone binding globulin	18-144 nmol/2
Estrogen	15-350 mg/ml
Insulin	40-50 units

Definition of Polycystic Ovarian Syndrome (PCOS)

Polycystic ovarian syndrome (pcos) is a heterogenous disorder characterized by excessive androgen production by the ovaries, which interferes with the reproductive, endocrine and metabolic functions manifested by amenorrhoea, hirsutism, and obesity associated with enlarged polycystic ovaries.

Incidence:

1. 5 – 10 % women of reproductive age group (14-45 years) are affected
2. In India 2.2 – 26 % women of reproductive age group are affected in

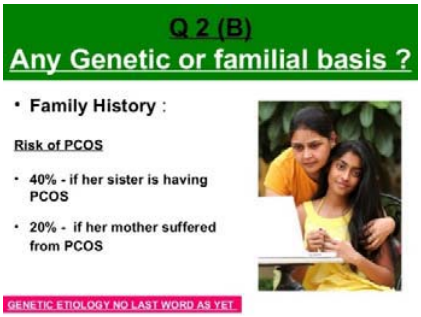
Mostly adolescent groups (16-19 years) are affected.

Risk Factors:

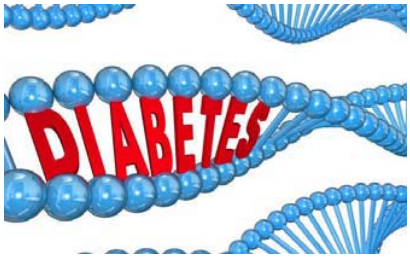
1. Physical inactivity

2. Sedentary life style

3. Family history of Polycystic ovarian syndrome



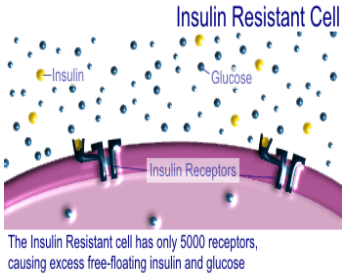
4. Family history of diabetes

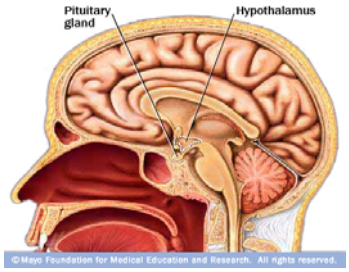


Causes:

1. <u>obesity and insulin resistance</u>:

   obesity will leads to insulin resistance . increased insulin will stimulate ovaries to produce excess amount of androgen(testosterone)





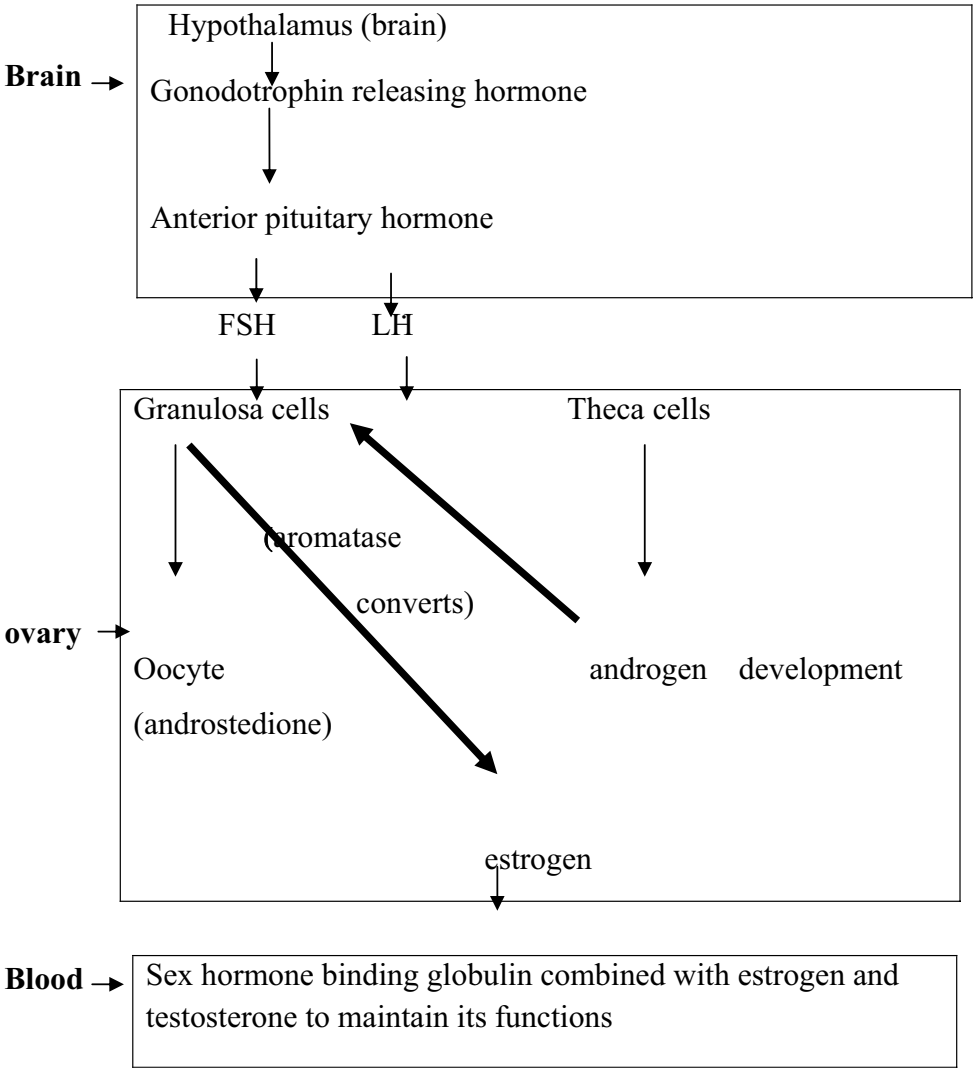
2. Alteration in hypothalamic-pituitary function:

   It leads to imbalance of follicle stimulating hormone and luitenising hormone, that affect normal ovulation and produce excess amount of estrogen

3. Hyperandrogenism (increase level of androgen)

   Hyperandrogenism produce excess amount of estrogen and affect normal ovuvlation.

Normal Hormone Regulation:



Pathophysiology of Polycystic ovarian syndrome:

Hypothalamus (brain)

↓

In hyperinsulinemia(increase level of insulin) stage leptin released by ovarian follicles

Increase Gonodotrophin releasing hormone

↓

Anterior pituitary hormone

↓ ↓

FSH LH

(follicle stimulating hormone) is not increasing

(Luiteniring hormone) is increasing

↓

Theca cells

↓

Androgen (releasing testosterone

↓

Induce aromatisation of androgen

↓

[Decrease sex hormone binding globulin ,it binds With testosterone and estrogen to maintain normal function]

Hyper estrogenic state (increased estrogen level)

↓

Menstrual disturbances (absence of bleeding,irregular bleeding)

Signs and Symptoms:

1. Menstrual Irregularity

- Less than 8 menstrualcycle per year
- Severe bleeding (menorrhagia)
- Mild bleeding (hypo menorrhea)
- Absence of menstruation (amenorrhoea)
- Infrequent menstruation (oligomenorrhoea)

2. Weight gain

3. Acne

4. Hirsutism:
   Hair growth on upper lip, chin, neck, chest,upper and lower abdomen, back

5. Male-pattern baldness

6. Enlargement of clitoris
7. Acanthosis nigrians

Dark or thick skin marking and creases around the arm,groin,neck

Diagnostic test:

1. **History:**

- Details of history of diabetes
- Questions about symptom like weight gain menstrual cycle etc

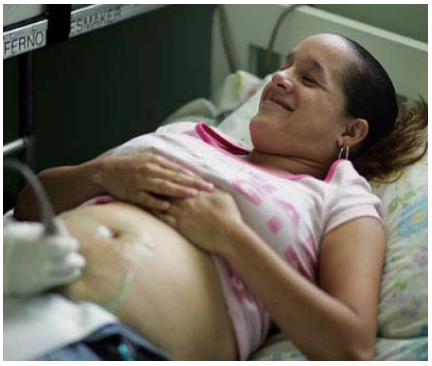
2. **Blood test:**

To check glucose level and hormone levels

- Testosterone levels greater then 70 ng/dl indicate pcos.
- LH exceed more than 25 iu/l indicates pcos.
- Sex hormone binding globulin less than 144 nmol/2 indicates pcos.
- Insulin excess 40-50 units indicates insulin resistance.

3. **Ultra sound for abdomen @ uterus:**

It is the major diagnostic tool, which show enlarged ovaries with small cysts.



Management:

1. Lifestyle modification
2. Medical treatment
3. Surgical treatment

1. **Lifestyle modifications: (first line treatment)**

It is the first line treatment. Polycystic ovarian syndrome can be greatly improved by losing excess weight. losing excess weight by healthy balance diet and exercise

$$\text{BMI} = \frac{\text{WEIGHT IN KG}}{\text{HEIGHT IN M}^2}$$

<18.5 – Under weight
18.5 – 24.9 - normal
25 – 29.9 - over weight
>30 - obesity

FOOD ITEMS TO BE TAKEN	EXAMPLES
1. Consume food in their most nature form (fresh)	Fruits  Vegetables 

2. Introduce fiber gradually	Nuts  Cabbage  Soyabeans  Apple 
3. Consume Protein diet	seeds  Fish 

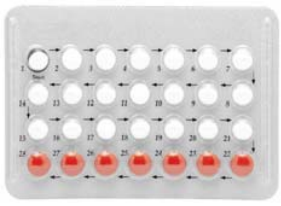
FOODS TO BE REDUCED	EXAMPLES
1. Consume low fat or fat free dairy products:	Use for unsaturated oils (corn oils) 
2. Food which contain sugar should be reduced:	Sweets 
	Use jaggeri instead of sugar 
3 Food which contain Carbohydrate should be reduced	Rice (1 time / day) 
4 Limit salt intake	Consume less than 2400 mg of salt per day Use Lemon, Pepper instead of salt  

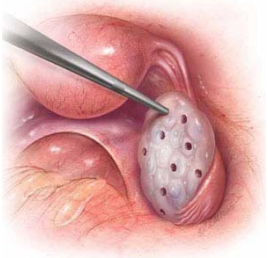
Recommended life style changes:

1. Weigh loss of 5 – 10%
2. Decreased calorie intake
3. Increased fiber intake
4. Decreased fat intake
5. Small, frequent diet (every day 4 – 5 times)
6. Balanced meals with CHO, protein, fat

Exercise:

1. Regular exercise.30 min / day. Slowly the time has to be increased.
2. Involved in house hold activities

PROBLEMS	TREATMENT	USES
Irregular menstruation	Hormone tablets (progestin) 	These all inhibit effect on hypothalamic release of GNRH and maintain normal level of FSH and LH to promote normal ovulation.
Infertility problems	Metformin 1.clomifene with metformin 2.gonodotrophins .(pregnel) 	It prevent insulin resistance by making the body to response insulin effectively Gonodotrophins are stimulate follicle stimulating hormone and maintain ovulation

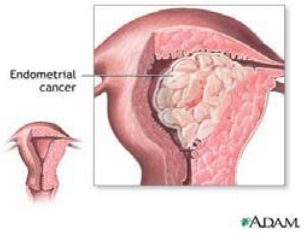
Unwanted hair growth	Combined hormone pills (dianette)  (eflorithine cream) (flutamide)  	These all works by blocking the effect of male hormone (testosterone)
Acne	(spiranolactone) Wash your face daily .don't over wash Avoids food that are high in sugar,fat. 	
Surgical treatment	Shaving 	Use physical removing for excess hair
	Laser 	
	ovarian diathermy-laparoscopic ovarian drilling 	Under GA through laparoscope, the ovaries are surgically treated by using heat or laser to destroy the tissues that producing male hormone (testosterone) and restore normal function.

Complications:

Type II diabetes

Infertility

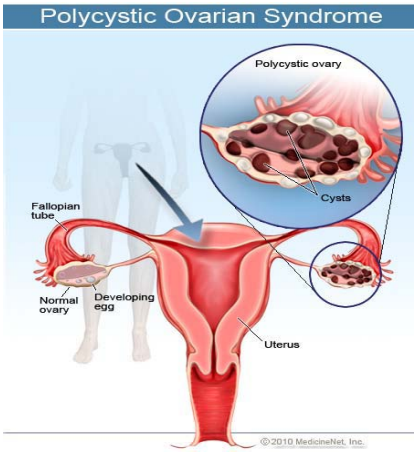
Carcinoma in uterus



High blood pressure

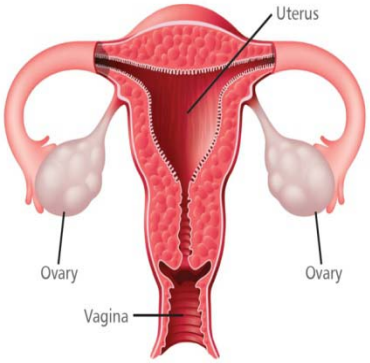
அண்டக நீர்க்கட்டி நோய் மற்றும் அதன் சிகிச்சை முறைகள்

முன்னுரை:



அண்டக நீர்க்கட்டி நோய் என்பது இனப்பெருக்க வயதுள்ள (15-45 வயது) பெண்களுக்கு,மூளையில் உள்ள பிட்டியூட்டரி மற்றும் அண்டகச்சுரப்பியில் சுரக்கும் ஹார்மோன்களின் குறைபாடுகளினால் ஏற்படும் ஒரு பொதுவான நோய் ஆகும். இது குழந்தையின்மை ஏற்பட முக்கிய காரணியாக அமைகிறது.

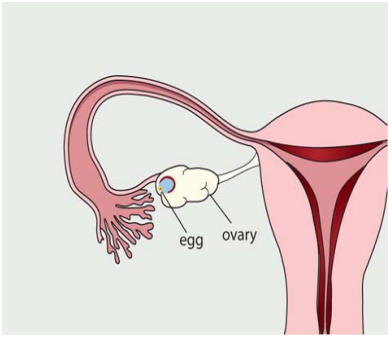
அண்டகத்தின் அமைப்பு:



1. பெண்ணின் இனப்பெருக்க உறுப்பில் மொத்தம் இரண்டு அண்டகங்கள் உள்ளன.
2. அண்டகங்கள் கர்ப்பபையின் இருபுறத்தில் உள்ள கருமுட்டை குழாயின் முடிவில் நெருக்கமாக அமைந்துள்ளன.
3. அண்டகங்கள் பாதாம் பருப்பு வடிவத்தில் இருக்கின்றன மற்றும் இதன் நீளம் 3..5 செமீ. அகலம் 2 செ.மீ, அடர்த்தி 1.5 செ.மீ எனடை 4-8 கிராம்.
4. ஒவ்வொரு அண்டகத்திலும் 5-7 வரை சிறிய நீர்க்குமிழிகள் காணப்படும். இதன் அளவு 2mm
5. கிரானுலோசா மற்றும் தீகா என்ற இரண்டு வகையான செல்கள் அண்டகத்தில் காணப்படுகின்றன.

அண்டகங்களின் செயல்பாடுகள்:

1. ஒவ்வொரு மாதமும் அண்டகங்கள், மாதவிடாய் சுழற்சி மற்றும் கருவுறுதலுக்கு தேவையான முதிர்ந்த முட்டைகளை உருவாக்குகிறது.



2. அண்டகங்கள் பெண் இன ஹார்மோன்களான (ஈஸ்ட்ரோஜன் மற்றும் ப்ரோஜெஸ்டிரான்) மற்றும் ஆண் இன ஹார்மோனான (ஆண்ட்ரோஜன் சிறிய அளவில்) உற்பத்தி செய்கிறது.
3. அண்டம் வெளியேறுதல்

   அண்டகத்திலிருந்து முதிர்ந்த முட்டை (அண்டம்) வெளியேறுகிறது. மாதவிடாய் சுழற்சி மற்றும் கருவுறுதலுக்கு அண்டம் மிகவும் முக்கியமானது.

ஹார்மோன்களின் சரியான அளவுகள்:

1.லுடினைசிங் ஹார்மோன்	-	5-25 IU/L
2..˙.பாலிக்கில் ˙ஸ்டுமுலேடிங் ஹார்மோன்	-	4.7-21.5 MIU/L
3.டெஸ்டோஸ்டீரான்	-	15-70 ng/dl
4.செக்ஸ்ஹார்மோன்பைன்டிங் குளோபுளின்	-	18-144 nmol/2
5.ஈஸ்ட்ரோஜன்	-	15-350 mg/ml
7.இன்சுலின்	-	40-50 units

அண்டகநீர்க்கட்டி நோயின் வரையறை:

அண்டக நீர்க்கட்டி நோய் என்பது பல நீர்க்கட்டிகளை கொண்ட வீக்கமுள்ள அண்டகம் ஆகும்.இந்நோய் பெண்களுக்கு ஆண்ட்ரோஜன் ஹார்மோன் அதிக அளவில் சுரப்பதினால் ஏற்படுகிறது. இதனால் மாதவிடாயின்மை, உடல் பருமன் அதிகரித்தல்

மற்றும் ஹிர்சுடிசம், எனப்படும் தேவையற்ற ரோம வளர்ச்சி உடலின் பல பகுதிகளில் ஏற்ப்படும்.

நிகழ்வுகள்:

1. உலகளவில் அண்டக நீர்க்கட்டி நோய்க்கு இனப்பெருக்க வயதுள்ள (15-45வயது) பெண்கள் 5-10% பாதிக்கப்படுகின்றனர்.
2. இந்தியாவில் மட்டும் 22-26% இனப்பெருக்க வயதுள்ள (15-45 வயது) பெண்கள் பாதிக்கப்படுகின்றனர்

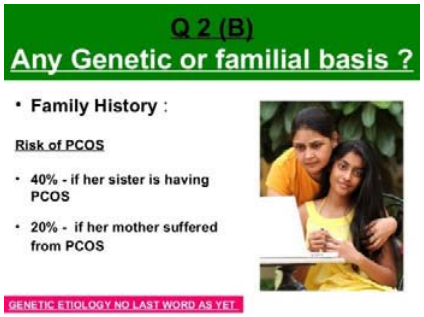
பெரும்பாலும் இளம் வயது பெண்கள் (16-19 வயது) அதிகமாக பாதிக்கப்படுகின்றனர்

ஆபத்து காரணிகள்:

1.உடல் உழைப்பின்மை

2. மந்தமான வாழ்க்கை முறை

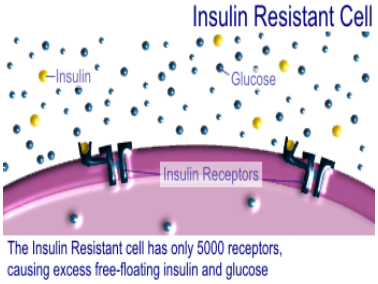
3. பரம்பரை அண்டக நீர்க்கட்டி நோய்



4. பரம்பரை சர்க்கரை வியாதி

<u>காரணங்கள்:</u>

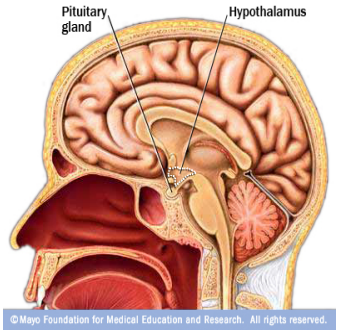
1. உடல் பருமன் மற்றும் இன்சுலின் எதிர்ப்பு:
   உடல்பருமன் அதிகரிப்பதால் இன்சுலின் எதிர்ப்பு ஏற்படுகிறது. இவ்விளைவு, அண்டகத்தை அதிக அளவில் ஆண் இன ஹார்மோனாகிய ஆண்ட்ரோஜன் (டெஸ்டோஸ்டீரான்) சுரக்க துண்டுகிறது.



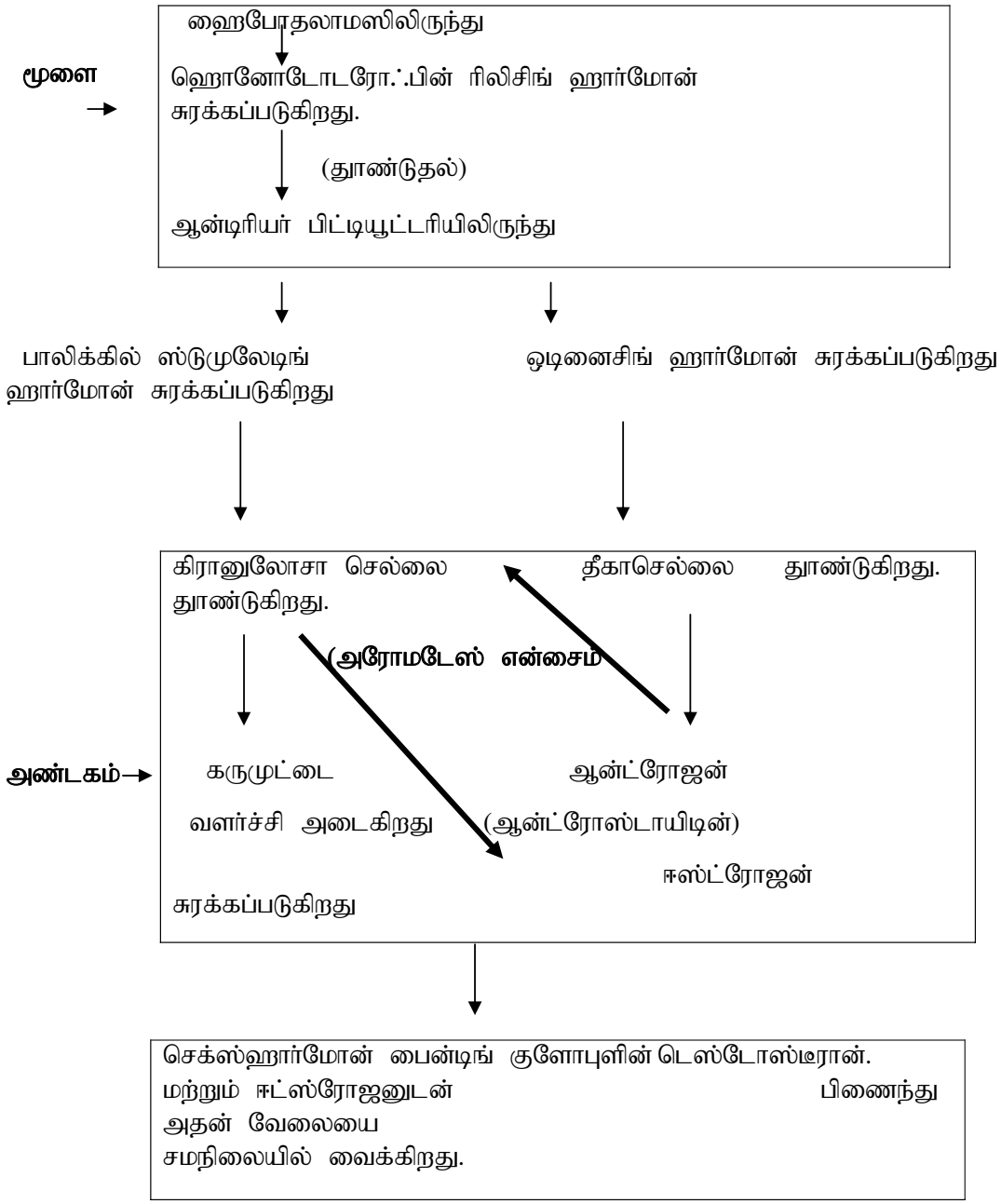
The Insulin Resistant cell has only 5000 receptors, causing excess free-floating insulin and glucose

2. ஹைபோதலாமஸ் - பிட்டியூட்டரி செயல்களின் மாறுபாடுகள்:

இம்மாறுபாடுகளினால் .்பாலிக்கில் ஸ்டுமுலேட்டிங் ஹார்மோன் மற்றும் லுடினைசிங் ஹார்மோன்களில் சமநிலையின்மை ஏற்படுகிறது. இச்சமநிலையின்மையானது, அண்டகத்திலிருந்து அதிகப்படியான ஈஸ்ட்ரோஜன் சுரக்க வழிவகுக்கிறது..



ஹார்மோன்களின் ஒழுங்கான சுழற்சி முறை:



அண்டகநீர்க்கட்டி நோயினால் ஹார்மோன்களில் ஏற்படும் மாறுபாடுகள்:

அதிக அளவு இன்சுலினால்

↓

(அதிக அளவு இன்சுலினால் லெப்டின் என்ற புரதம்

அண்டகத்திலிருந்து சுரக்கப்படுகிறது.

ஹைபோதலாமஸிலிருந்து

↓

ஹொனோடோட்ரோபின் ரிலிசிங் ஹார்மோன் அதிக அளவு சுரக்கப்படுகிறது.

↓

ஆன்ட்டிரியர் பிட்டியூட்டரிலிருந்து

பாலிகின் ஸ்டுமுலேடிங் ஹார்மோன அளவு அதிகஅளவு

சுரக்கப்படுகிறது

லுடினைசிங் ஹார்மோன் குறைந்த சுரக்கப்படுகிறது

↓

தீகாசெல்லைதூண்டுகிறது

↓

அதிகஅளவு ஆன்ட்ரோஜன்
(டெஸ்டோஸ்டீரான்) சுரக்கப்படுகிறது

↓

செக்ஸ்ஹார்மோன் பைன்டிங் குளோபுளின்அளவு குறைகிறது.
(சாதாரணமாக இந்த குளோபுளின்

டெஸ்டோஸ்டீரான் மற்றும் ஈட்ஸ்ரோஜனுடன்
பிணைந்து அதன் வேலையை

சமநிலையில் வைக்கும்)

அதிக அளவில் ஈட்ஸ்ரோஜன்

↓

மாதவிடாய் பிரச்சனைகள் (மாதவிடாயின்மை குறைந்த அளவு மாதவிடாய், அதிக அளவு மாதவிடாய்)

அறிகுறிகள்:

1. ஒழுங்கற்ற மாதவிடாய்

- ஒரு வடத்திற்கு குறைந்த 8 மாதவிடாய் சுழற்சி
- அதிகப்படியான இரத்தபோக்கு (மெனரோஜியா)
- குறைவான இரத்தபோக்கு (ஹைபோமெனோரியா)
- மாதவிடாயின்மை (எமெனோரியா)

2. உடல்பருமன் அதிகரித்தல்

3. முகப்பரு ஏற்படுதல்

4. ஹிர்சுடிசம்:

தேவையற்ற ரோம வளர்ச்சி (உதடுக்கு மேல், கழுத்து கன்னம், மேல் மற்றும் கீழ் வயிற்றில்) காணப்படும்.

6. வழுக்கைத்தன்மை ஏற்படுதல்

7. பெண்குறிமூல வீக்கம்
8. எகான்தோசிஸ் நைக்ரியன்ஸ்

கை, கழுத்து இவற்றில் கருப்புநிற பட்டைகள் காணப்படும்.

<u>கண்டறியும் முறைகள்:</u>

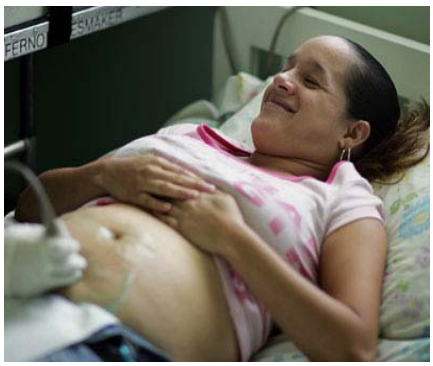
1. **குடும்ப தகவல் அறிதல்:**

- பரம்பரை சர்க்கரை வியாதி, பரம்பரை அண்டக நீர்க்கட்டி நோய் பற்றிய தகவல்களை சேகரிக்க வேண்டும்.
- உடல் எடை அதிகரிப்பு, மாதவிடாய் சுழற்சி பற்றிய தகவல்களை சேகரிக்க வேண்டும்.

2. **இரத்தசோதனை**

ஹார்மோன்களின் அளவுகளை சோதனை செய்ய வேண்டும்.

- டெஸ்டோஸ்டீரானின் அளவு 70mg/dl க்கு மேல் அதிகமாகும் போது அண்டக நீர்க்கட்டி நோய் ஏற்படும்.
- லுடினைசிங் ஹார்மோனின் அளவு 25Iu/l க்கு மேல் அதிகமானால் அண்டக நீர்க்கட்டி நோய் ஏற்படும்.
- செக்ஸ் ஹார்மோன் பைண்டிங் குளோபுளின் 144nmol/2 க்கு குறையும் போது அண்டக நீர்க்கட்டி நோய் ஏற்படும்
- இன்சுலின் அளவு 50units க்கு அதிகமாகும் போது இன்சுலின் எதிர்ப்பு ஏற்படுகிறது.
-



3. **கர்ப்பபை மற்றும் வயிறு அல்ட்ராசவுண்ட் ஸ்கேன்:**
   இது அண்டக நீர்க்கட்டி நோயினை கண்டறியும் முக்கியமான சோதனை ஆகும். இதில் நீர்க்கட்டியின் அளவை காணலாம்

சிகிச்சை முறைகள்:

1. வாழ்க்கை முறை மாற்றங்கள்
2. மருத்துவ சிகிச்சை
3. அறுவை சிகிச்சை

1.வாழ்க்கை முறை மாற்றங்கள்
(முதன்மை வகையான சிகிச்சை முறைகள்)

- உடலின் எடையை குறைப்பதன் மூலம் அண்டக நீர்க்கட்டியின் விளைவுகளை குறைக்கலாம்.
- உடலின் எடையை, உணவு மற்றும் உடற்பயிற்சி மூலம் குறைக்கலாம்.
- உடலின் எடையை கணக்கிட இந்த சுத்திரத்தை பின்பற்றவும்

$$BMI = \frac{\text{WEIGHT IN KG}}{\text{HEIGHT IN M}^2}$$

இதன் மதிப்பு

<18.5 – மிகவும் குறைவான எடை
18.5 – 24.9 - சரியான எடை
25 – 29.9 - அதிகமான எடை
>30 - மிகவும் அதிகமான எடை

சேர்த்துக் கொள்ள வேண்டிய உணவு வகைகள்	**எடுத்துக்காட்டு**
1.முழுமையான உணவு பொருட்கள் 2.நார்ச்சத்து நிறைந்த உணவுப்பொருட்கள்: நார்சத்து நிறைந்த உணவுப்பொருட்களை தினமும் சாலடுகளாக சாப்பிடலாம்.	பழங்கள்  காய்கறிகள் 

3.புரதச்சத்து நிறைந்த உணவுப்பொருட்கள்	முட்டைகோஸ்,  கொட்டைகள்  அவரைபீன்ஸ்  ஆப்பிள்  பருப்புவகைகள்  மீன் 

குறைவாக சேர்த்துக் கொள்ள வேண்டிய உணவு வகைகள்	**எடுத்துக்காட்டு**
1.குறைந்த கொழுப்பு சத்து உள்ள உணவுப்பொருட்கள்: (ஒரு நாளைக்கு 74.8 கிராமுக்கு குறைவாக)	செறிவூட்டப்படாத எண்ணெய் (மக்காசோளா எண்ணெய்)  இனிப்பு வகைகள் 
2.குறைந்த அளவு சர்க்கரை உள்ள உணவுப்பொருட்கள்:	சர்க்கரைக்கு பதிலாக கருப்பட்டி சேர்த்து கொள்ளலாம் 

3.குறைந்த அளவு கார்போஹைட்ரேட் உள்ள உணவுப்பொருட்கள்	சாதம் (ஒரு நாளைக்கு ஒரு முறை மட்டும போதுமானது)  உருளைகிழங்கு 
4.குறைந்த அளவு உப்பு:	ஒரு நாளைக்கு 2400 மில்லிகிராம்க்கு குறைவாக உப்பு எடுத்து கொள்ள வேண்டும்  உப்புக்கு பதிலாக எலுமிச்சை, மிளகை சேர்த்து கொள்ளாம். 

<u>பரிந்துரைக்கப்பட்ட வாழ்க்கை முறை மாற்றங்கள்:</u>

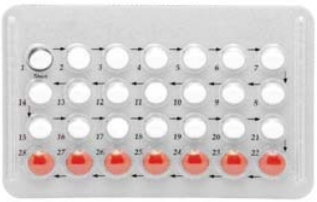
1.உடல் எடை குறைவு 5-10%
2. குறைந்த அளவு கார்போஹைட்ரேட் நிறைந்த உணவுப் பொருட்கள்
3. அதிக அளவு நார்சத்து நிறைந்த உணவுப் பொருட்கள்
4. குறைந்த அளவு கொழுப்பு சத்துள்ள உணவுப்பொருட்கள்
5. கார்போஹைட்ரேட், புரதம் மற்றும் கொழுப்பு சேர்ந்த சரிவிகித உணவு
6. சிறிய அளவில் அடிக்கடி உணவு எடுத்து கொள்ளுதல் (தினமும் 4-5 முறை)

<u>உடற்பயிற்சி:</u>

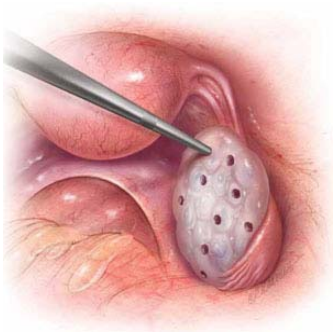
1. வீட்டு வேலைகளில் ஈடுபடலாம்.

2. தினமும் அரைமணி நேரம் உடற்பயிற்சி செய்ய வேண்டும்.

(மெதுவாக உடற்பயிற்சி செய்யும் நேரத்தை அதிகப்படுத்தலாம்)

பிரச்னைகள்	**சிகிச்சை முறைகள்**	**பயன்கள்**
ஒழுங்கற்ற மாதவிடாய் சுழற்சி:	ஹார்மோன் மாத்திரைகள் (hormone tablets) ∴ப்ரோஜெஸ்டிரான் மாத்திரைகள் (ப்ரோஜெஸ்டின்) (progestin)  மெட்பார்மின் (metformin) 1.குளோமிபேனுடன் மெட்பார்மின்(clomifene with metformin)  	ஹார்மோன மாத்திரைகள் மற்றும் ப்ரோஜெஸ்டிரான் மாத்திரைகள் ஹைபோதலாமிக் - பிட்டியூட்டரியின் ஒழுங்கற்ற செயல்பாடுகளை தடுத்து அண்டகத்திலிருந்து அண்டம் வெளிவருவதை தூண்டுகிறது மெட்பார்மின் இன்சுலின் எதிர்ப்பை தடுக்கிறது.
கருவுறுதல் பிரச்சனைகள்	2.குனோடோட்ரோபீன் மாத்திரைகள் (பெரக்னில்)	இவை பாலிகிள் ஸ்டுமுலேடிங் ஹாமோனின் அளவை அதிகரித்து அண்டகத்திலிருந்து அண்டம் வெளிவருவதை தூண்டுகிறது

தேவையற்ற ரோம வளர்ச்சி	 ஒருங்கிணைந்த ஹார்மோன் மாத்திரைகள் (டையனெட்டோ) (dianette)  எ.ப்லோர்ரிதீன் கிரீம் (eflorithine cream) ப்ளுடமைட்(flutamide) ஸ்பைரனோலக்டோன் (spiranolactone) சேவிங்  லேசர் 	இவை அனைத்தும் டெஸ்டோஸ்டீரான் ஹார்மோனின் அளவை குறைந்த தேவையற்ற ரோமவளர்ச்சியை குறைக்கிறது. தேவையற்ற ரோம வளர்ச்சியை சேவிங், லேசர் மூலமும் குறைத்து கொள்ளலாம்.

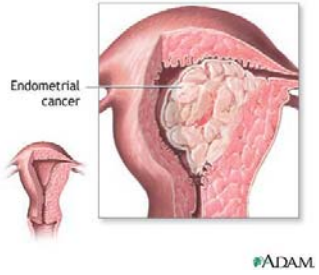
முகப்பரு	1.எமோலியன்ஸ் என்ற கிரீமை பயன்படுத்தவேண்டும்.  2.தினமும் முகத்தை 2-3 முறை கழுவ வேண்டும் (அதிகமாக கழுவக் கூடாது.) 3.கொழுப்பு சத்து நிறைந்த உணவுப்பொருட்களை தவிர்க்க வேண்டும்.	
அறுவை சிகிச்சை:	ஒவேரியன் டையதெர்மி – லாப்ரோஸ்கோபிக் ஓவேரியன் டிரிலிங் 	லாப்ரோஸ்கோபிக் மூலமாக அண்டகத்தில் டெஸ்டோஸ்டீரானை உருவாக்கும் திசுக்களை லேசர் அல்லது வெப்பம் மூலம் அழித்து அண்டகத்தின் இயல்புநிலை மீண்டும் கொண்டு வரப்படுகிறது.

<u>அண்டக நீர்க்கட்டி நோய் பாதிப்பின் சில விளைவுகள்:</u>

1.சர்க்கரை வியாதி (வகை II)

2.குழந்தையின்மை

3.கர்ப்பபை புற்றுநோய்



4.உயர் இரத்த அழுத்தம்

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool for **"Effectiveness of Self Instructional Module on knowledge regarding Polycystic ovarian syndrome (PCOS) among adolescent girls in selected college at Sivagangai."** Prepared by V.KAVITHA II year M.Sc. Nursing student (Obstetrics and gynecological Nursing) ,RASS ACADEMY COLLEGE OF NURSING ,POOVANTHI, is found to be valid and highly relevant.

Place :

Date :

P.G. Asst. Tamil
Thirumanjolai
Hr. Sec. School.

PERMISSION LETTER FOR CONDUCTION OF RESEARCH PROJECT

TO

THE PRINICIPAL,

VICKRAM COLLEGE OF ENGINEERING,

Respected sir/ madam

Sub: permission to do research – project as a requirement of M.SC nursing programme

I am Ms.V.Kavitha studying IIyear M.Sc Nursing (OBSTETRICS AND GYNAECOLOGY NURSING) in RASS Academy College of Nursing, poovanthi ,which to do the project on the topic of **"Effectiveness of Self Instructional Module on knowledge regarding Polycystic Ovarian Syndrome (PCOS)Among Adolescent Girls in selected college at Sivagangai district"** for my dissertation to be submitted to DR.M.G.R Medical university in partial fulfillment of the requirement of Degree of Master of Science in Nursing. So I request you to grant permission to undertake the study in your esteemed institution in the month of March 2015. Please accept this permission letter and kindly do the needful for me.

Thanking you

Yours faithfully,

[MS.V.KAVITHA]

Place: Poovanthi

Date: 17.3.15

VICKRAM COLLEGE OF ENGINEERING ENATHI

17/3/15

PRINCIPAL
VICKRAM
COLLEGE OF ENGINEERING
Sreenivasa Gardens
Madurai-Sivagangai Rd

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool for **"Effectiveness of Self Instructional Module on knowledge regarding Polycystic ovarian syndrome (PCOS) among adolescent girls in selected college at Sivagangai."** Prepared by V.KAVITHA II year M.Sc. Nursing student (Obstetrics and gynecological Nursing) ,RASS ACADEMY COLLEGE OF NURSING ,POOVANTHI, is found to be valid and highly relevant.

Place : Mana Madurai.

Date : 11.3.15.

11.3.15.

Signature

D.K. VAJIRAIYA
PROFESSOR
MATHA COLLEGE OF NURSING
MANAMADURAI.

APPENDIX-VII

LIST OF EXPERTS

Dr.Prof S.Rajina rani M.Sc(N),P.h.D,

Principal,

RASS Academy College of Nursing,

Poovanthi,

Sivagangai District.

Mrs P.S Saranya, M.Sc (N),

Asst professor,OBGdept

RASS Academy College of Nursing,

Poovanthi,

Sivagangai District.

Mrs.H.UmmulHapipa, M.Sc (N),

Vice Principal and HOD of Medical Surgical Nursing,

RASS Academy College of Nursing,

Poovanthi,

Sivagangai District.

Dr.Hemavathy MBBS DGO,

Consultant obstetrician,

Sabari hospital,

Sivagangai.

Mrs.VijipriyaM.sc(N) Ph.D,
Associate professor,
Mathacollege of nursing,
Manamadurai.

Mrs.Arulmozhi M.sc (N) Ph.D,
Associate professor,
Mathacollege of nursing,
Manamadurai.

Mrs.vijaya M.sc (N) ,
Lecturer,
Mathacollege of nursing,
Manamadurai.

DR.Varadharajan M.sc.,M.phil.,M.Ed.,Ph.D(Edn).,
Professor of psychology,
RASS Academy College of nursing,
Sivagangai.

APPENDIX VIII

PHOTOGRAPHIC EVIDENCE OF DATA COLLECTION